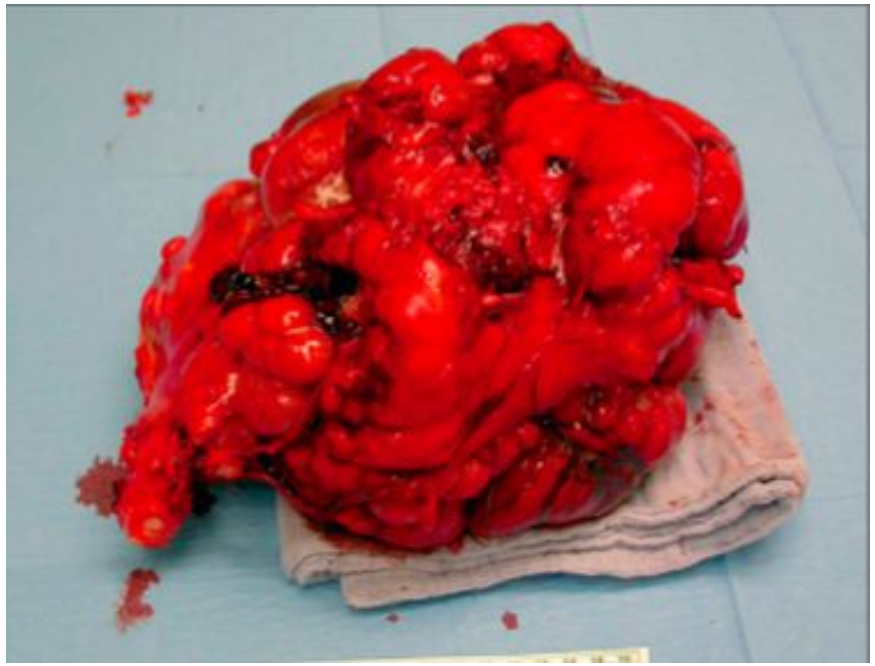
ҚР ДЕНСАУЛЫҚ САҚТАУ МИНИСТРЛІГІ
С.Д.АСФЕНДИЯРОВ АТЫНДАҒЫ
ҚАЗАҚ ҰЛТТЫҚ МЕДИЦИНА УНИВЕРСИТЕТІ

МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РК
КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ
ИМЕНИ С.Д.АСФЕНДИЯРОВА

Uterine sarcoma



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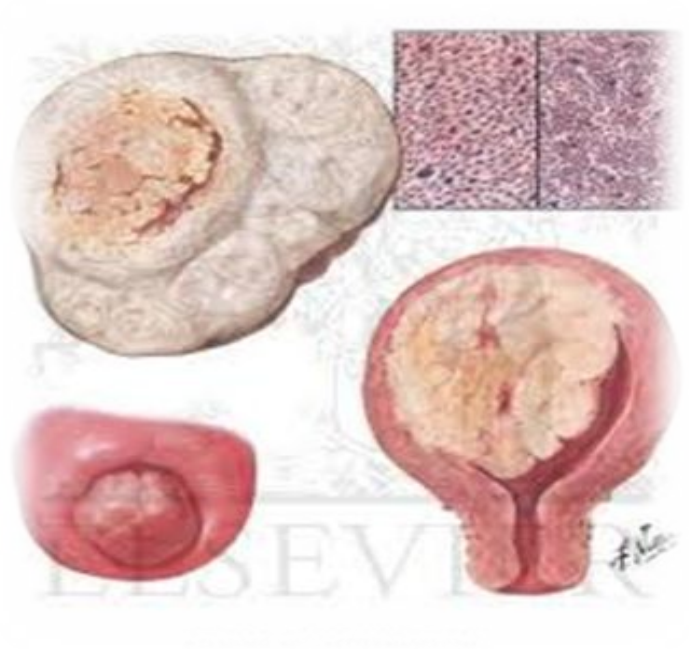
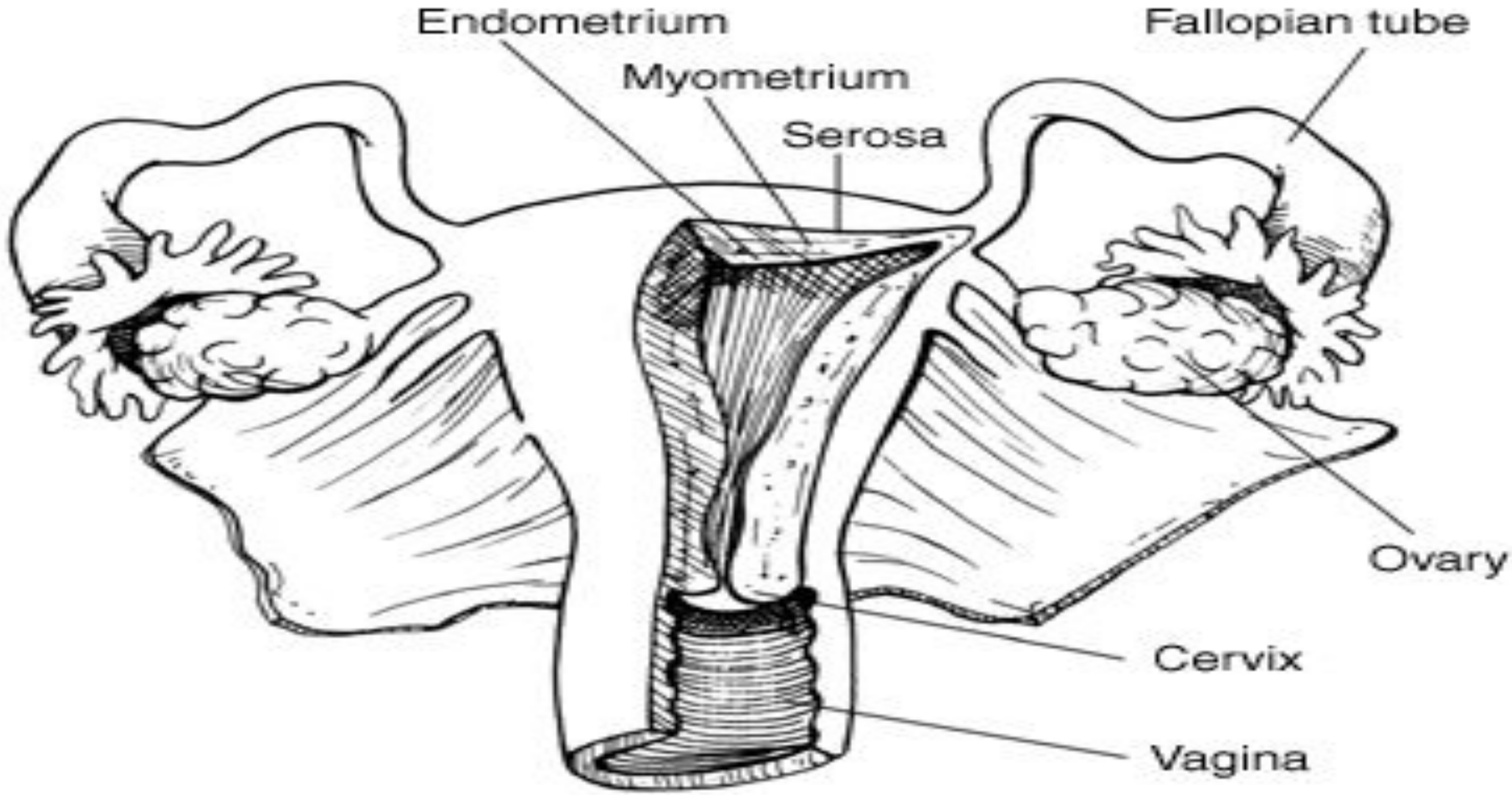
Group 703-1 AG

The uterine sarcomas form a group of malignant tumors that arises from the smooth muscle or connective tissue of the uterus. Uterine sarcoma are rare, out of all malignancies of the uterine body only about 4% will be uterine sarcomas.




Endometrium
Myometrium
Serosa
Fallopian tube
Ovary
Cervix
Vagina

Risk factors

- Exposure to estrogen is a key risk factor
- Risk is increased with dose and time exposed
- Morbid obesity
- Polycystic ovary syndrome
- Oligomenorrhea
- Exogenous estrogen
- Hormone replacement without progestin
- Tamoxifen (estrogen agonist in the endometrium)
- OBESITY

21-50lb overweight – 3x incidence

50lb weight - 10x incidence

- Nulliparity – incidence increased 2x
- Late Menopause - incidence increased 2.5x
- Diabetes, hypertension, hypothyroidism are associated with endometrial cancer

Familial Syndromes

- Lynch Syndrome/HNPCC (Hereditary Nonpolyposis Colorectal Cancer)
- Caused by inherited germline mutation in DNA-mismatch repair genes (MLH1, MSH2, MSH6, PMS2)
- Cowden Syndrome
- PTEN mutation

(THE HISTOLOGICAL SUBTYPE)

- Tumoral entities include:

- Leiomyosarcomas (30%)

- endometrial stromal sarcomas(15%)

- carcinosarcomas (10%)

- "other" sarcomas (5%)

- If the lesion originates from the stroma of the uterine lining it is **an endometrial stromal sarcoma.**
- If the uterine muscle cell is the originator the tumor is a uterine **leiomyosarcoma.**
- **Carcinosarcomas** comprise both malignant epithelial and malignant sarcomatous components.

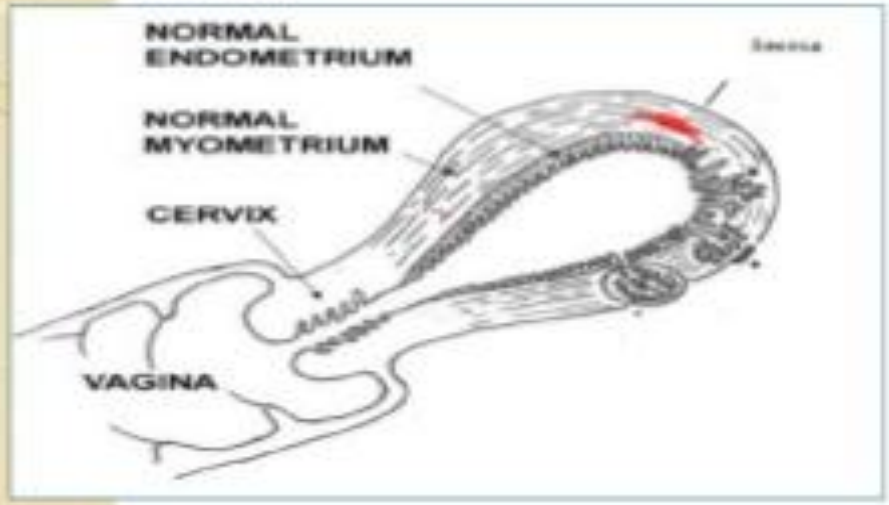
ESS /LMS/Adenosarcoma FIGO 2009 staging

FIGO Stages	Definition
	Primary tumor cannot be assessed
	No evidence of primary tumor
I	Tumor limited to the uterus
IA	Tumor 5 cm or less in greatest dimensic
IB	Tumor more than 5 cm
II	Tumor extends beyond the uterus, within the pelvis
IIA	Tumor involves adnexa
IIB	Tumor involves other pelvic issues
III**	Tumor infiltrates abdominal tissues (not just protruding into the abdomen)
IIIA	One site
IIIB	More than one site
IVA	Tumor invades bladder or rectum

CLASSIFICATION

- Leiomyosarcomas are now staged using the 2009 FIGO staging system[2] (previously they were staged like endometrial carcinomas) at time of surgery.
- Stage I: tumor is limited to the uterus
- IA: ≤5 cm in greatest dimensionIB: >5 cmStage II: tumor extends beyond the uterus, but within the pelvis
- IIA: involves adnexa of uterusIIB: involves other pelvic tissuesStage III: tumor infiltrates abdominal tissues
- IIIA: 1 siteIIIB: >1 siteIIIC: regional lymph node metastasisStage IVA: invades bladder or rectum
- Stage IVB: distant metastasis (including intraabdominal or inguinal lymph nodes; excluding adnexa, pelvic and abdominal tissues)
- Endometrial stromal sarcomas and uterine adenosarcomas are classified as above, with the exception of different classifications for Stage I tumors.
- Stage I: tumor is limited to the uterus
- IA: limited to endometrium/endocervixIB: invades <½ myometriumIC: invades ≥½ myometrium
- Finally, malignant mixed Müllerian tumors, a type of carcinosarcoma, are staged similarly to endometrial carcinomas.[3]
- Stage I: tumor is limited to the uterus
- IA: invades <½ myometriumIB: invades ≥½ myometriumStage II: invades cervical stroma, but no extension beyond the uterus
- Stage III: local and/or regional spread
- IIIA: invades uterine serosa and/or adnexaIIIB: vaginal and/or parametrial involvementIIIC: metastases to pelvic and/or paraaortic lymph nodesIIIC1: positive pelvic nodesIIIC2: positive para-aortic lymph nodesStage IVA: invades bladder and/or bowel mucosa
- Stage IVB: distant metastases (including intra-abdominal metastases and/or inguinal lymph nodes)

TNM Staging 2010
Uterine sarcoma



	T1	T2	T3	T4	M1
N0	I	II	III	IVA	IVB
N+	IIIC	IIIC	IIIC	IIIC	IVB

SIMPLIFICATION (FIGO stage)
-I: T1 -II:T2
-III:T3 OR LN+ -IV:T4 OR M1

- **T1**: uterus
  - T1a: <= 5 cm
  - T1b: > 5 cm
- **T2**: invade pelvic tissues
  - T2a: adenexa
  - T2b: other pelvic tisues
- **T3**: invade abdominal tissues
  - T3a: One site
  - T3b: multiple sites
- **T4**: bladder or bowel mucosa
- **N1**: regional LN +
- **M1**: Distant mets

Histologic Classification

Type	*Homologous*	*Heterologous*
Pure	Leimyosarcoma	Rhabdomyosarcoma
	Stromal sarcoma	Chondrosarcoma
	(i) endolymphatic stromal sarcoma	Osteosarcoma
	(ii) Endometrial stromal sarcoma	Liposarcoma
Mixed	Carcinosarcoma	Mixed mesodermal sarcoma

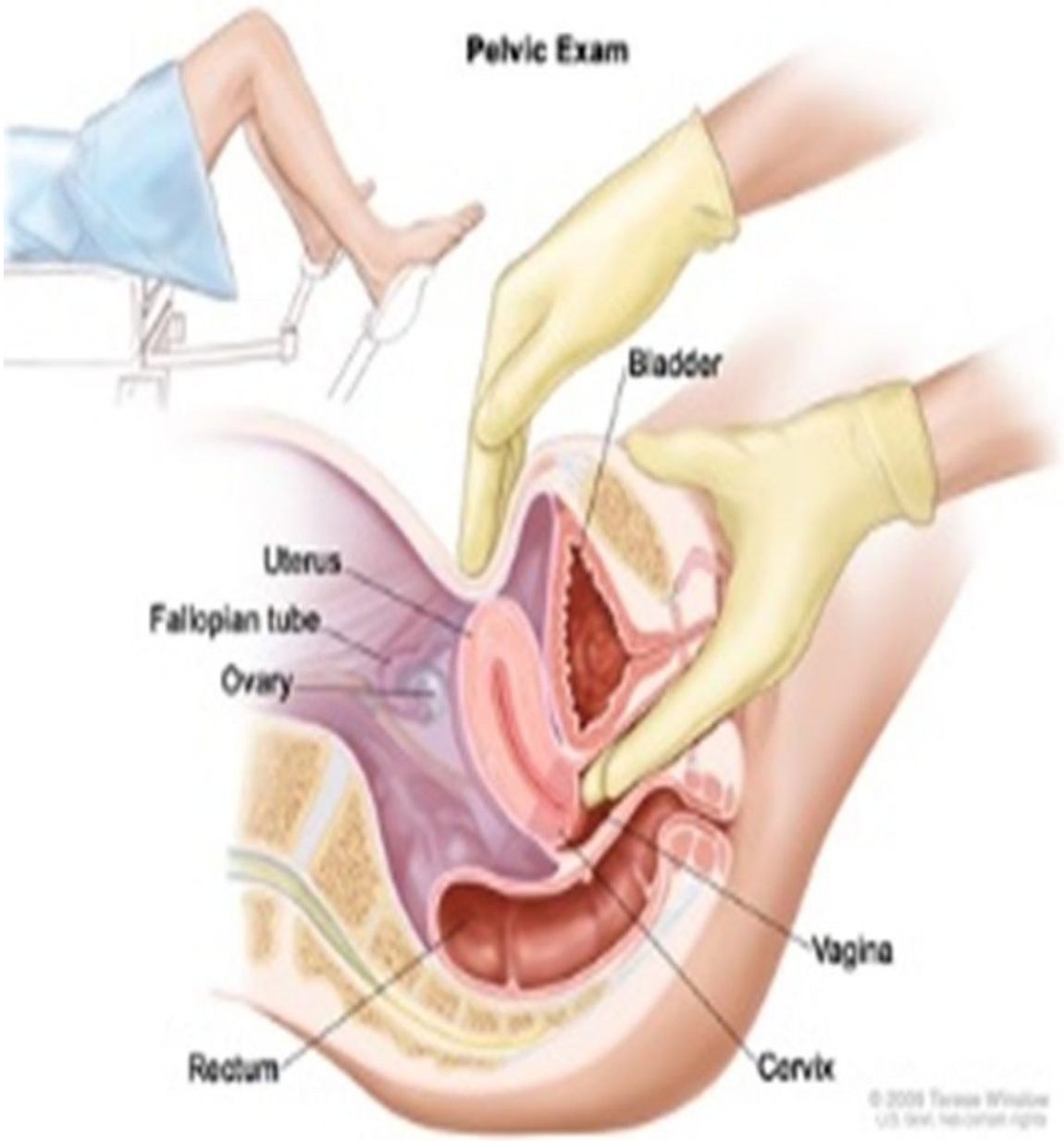
Clinical symptoms

- Bleeding or discharge not related to menstruation (periods)
- Bleeding after menopause
- Irregular bleeding in between menstrual cycles or after sexual intercourse
- Frequent, difficult or painful urination
- Pain during sexual intercourse
- Increasing or different pelvic pain or cramping
- A thin white (or pink) watery discharge from the vagina
- Increased pelvic pressure, particularly if associated with changes in bladder or bowel patterns
- Pyometria/Hematometria

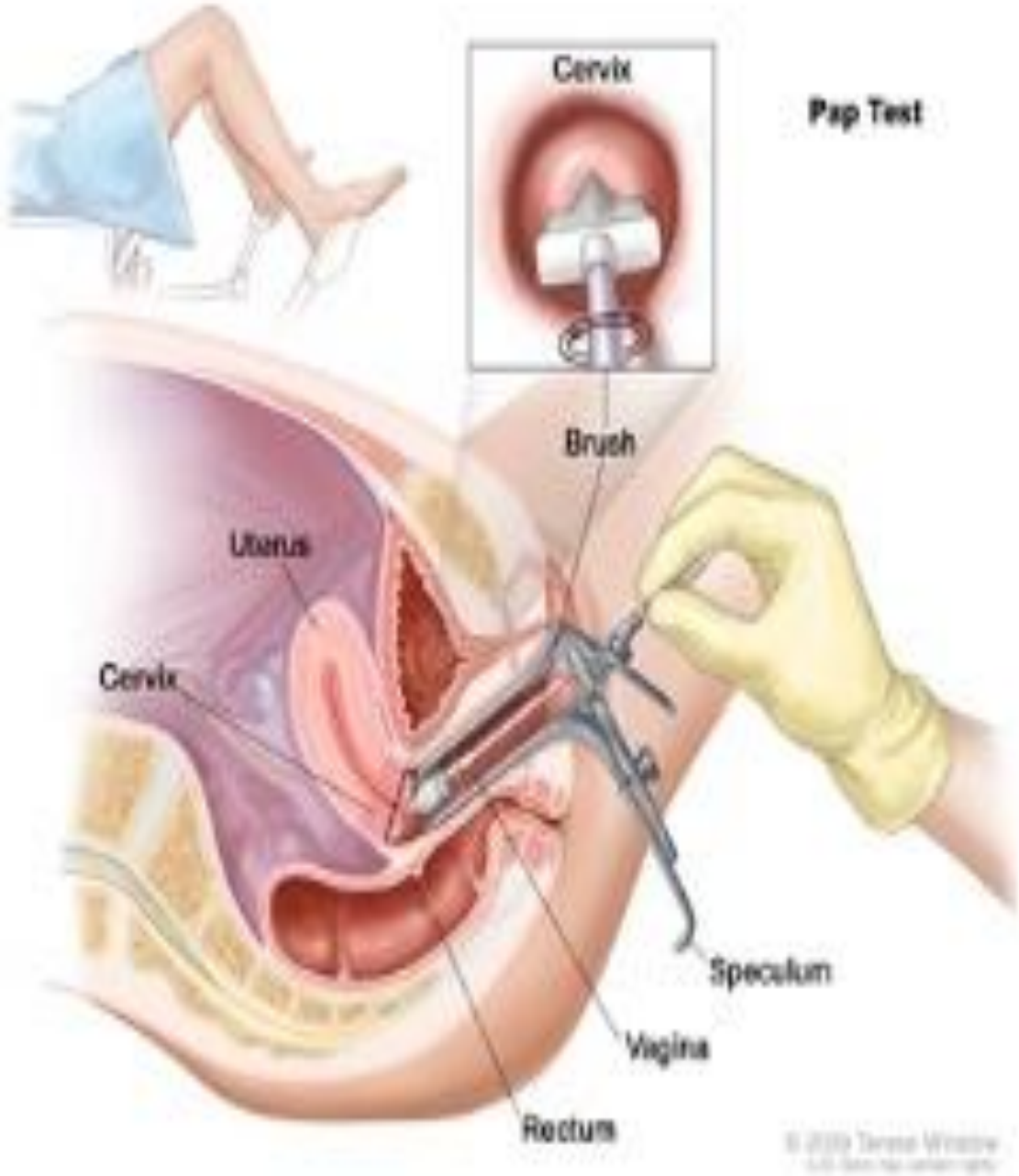
DIAGNOSTICS

- Anamnesis (complaints, an objective examination)
- General blood analysis, blood chemistry, CA 125 assay
- Gynecological examination (or rectal)
- Transvaginal ultrasound
- PAP smear
- cervical biopsy and endometrial biopsy
- dilation & curettage (D&C) and hysteroscopy
- computed tomography (CT) scan
- Chest x-ray

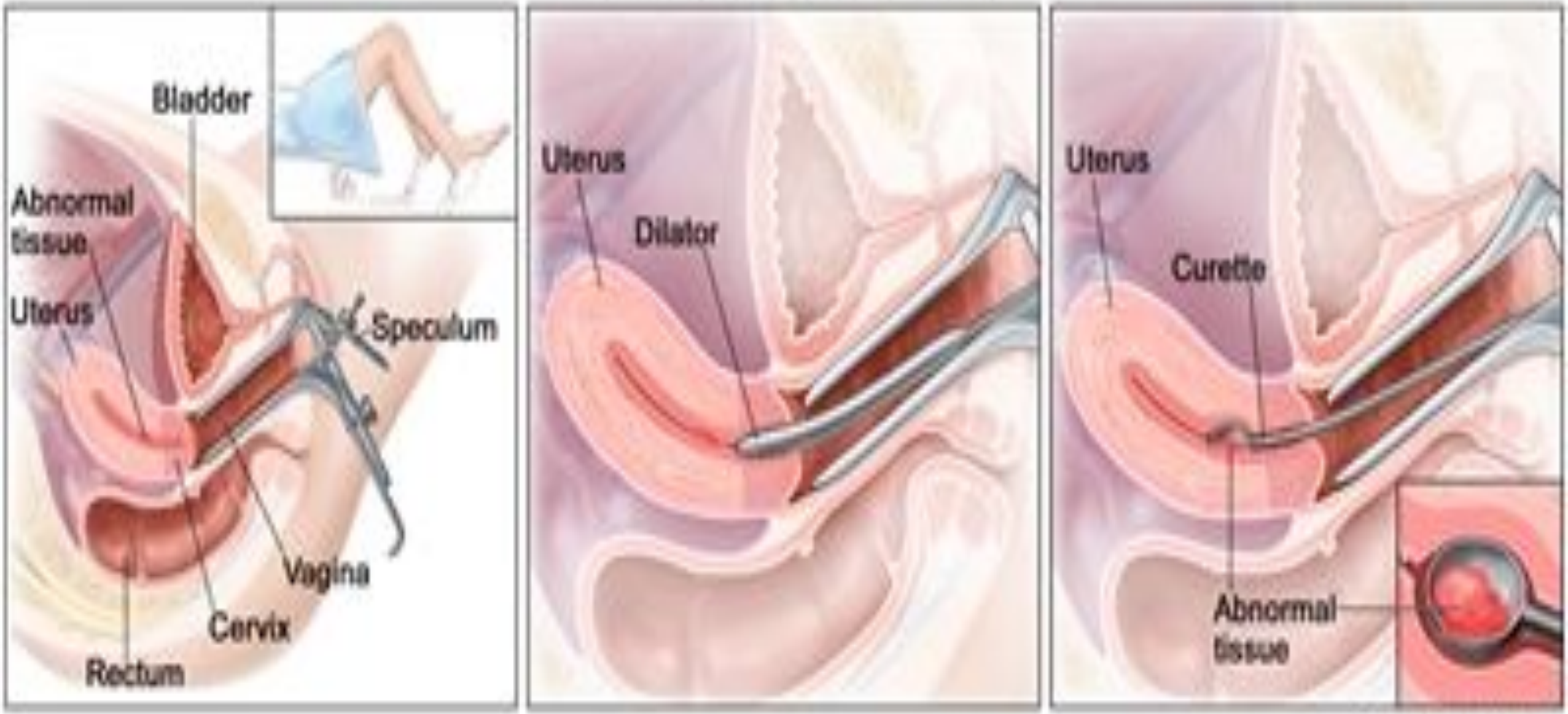
Pelvic exam

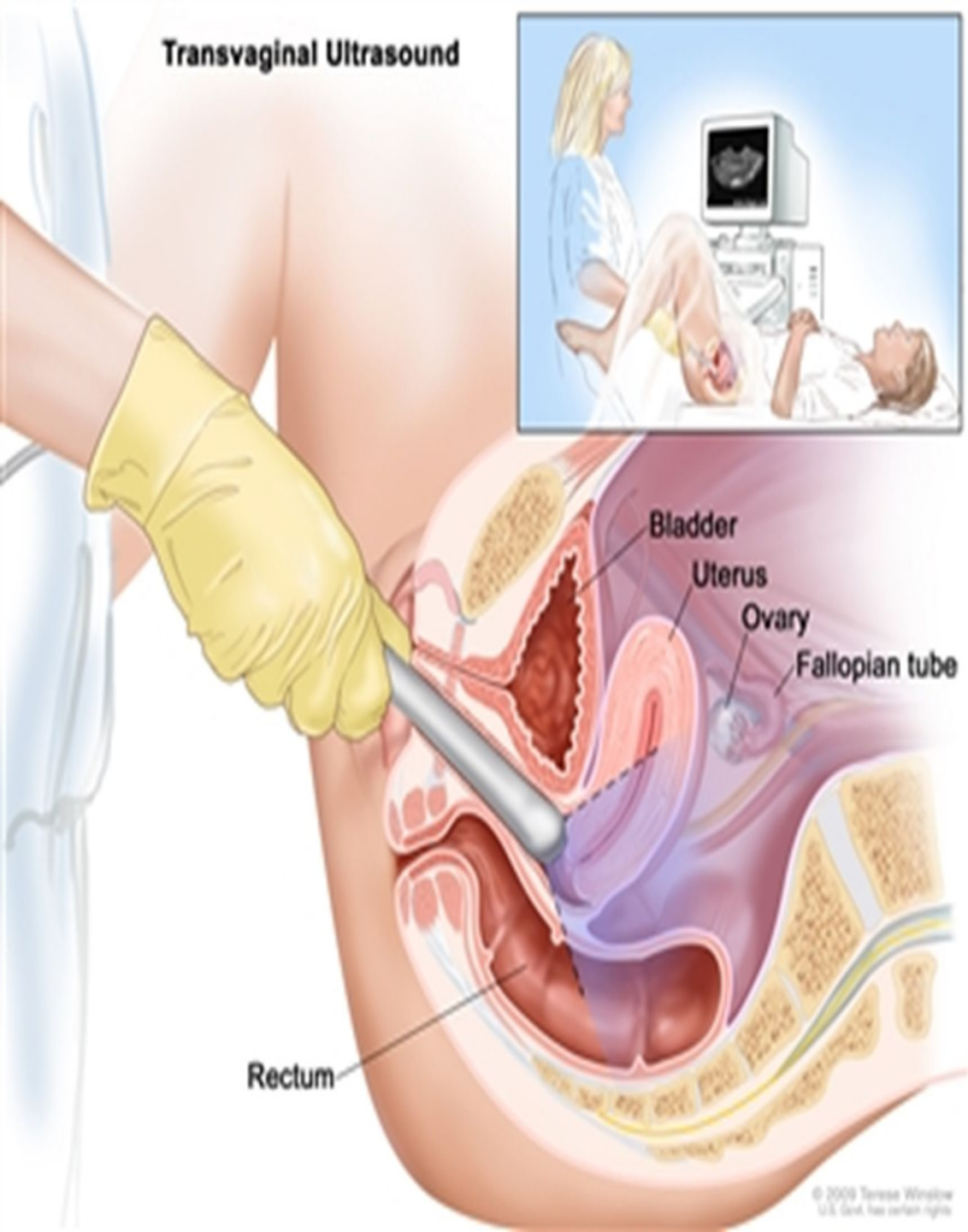


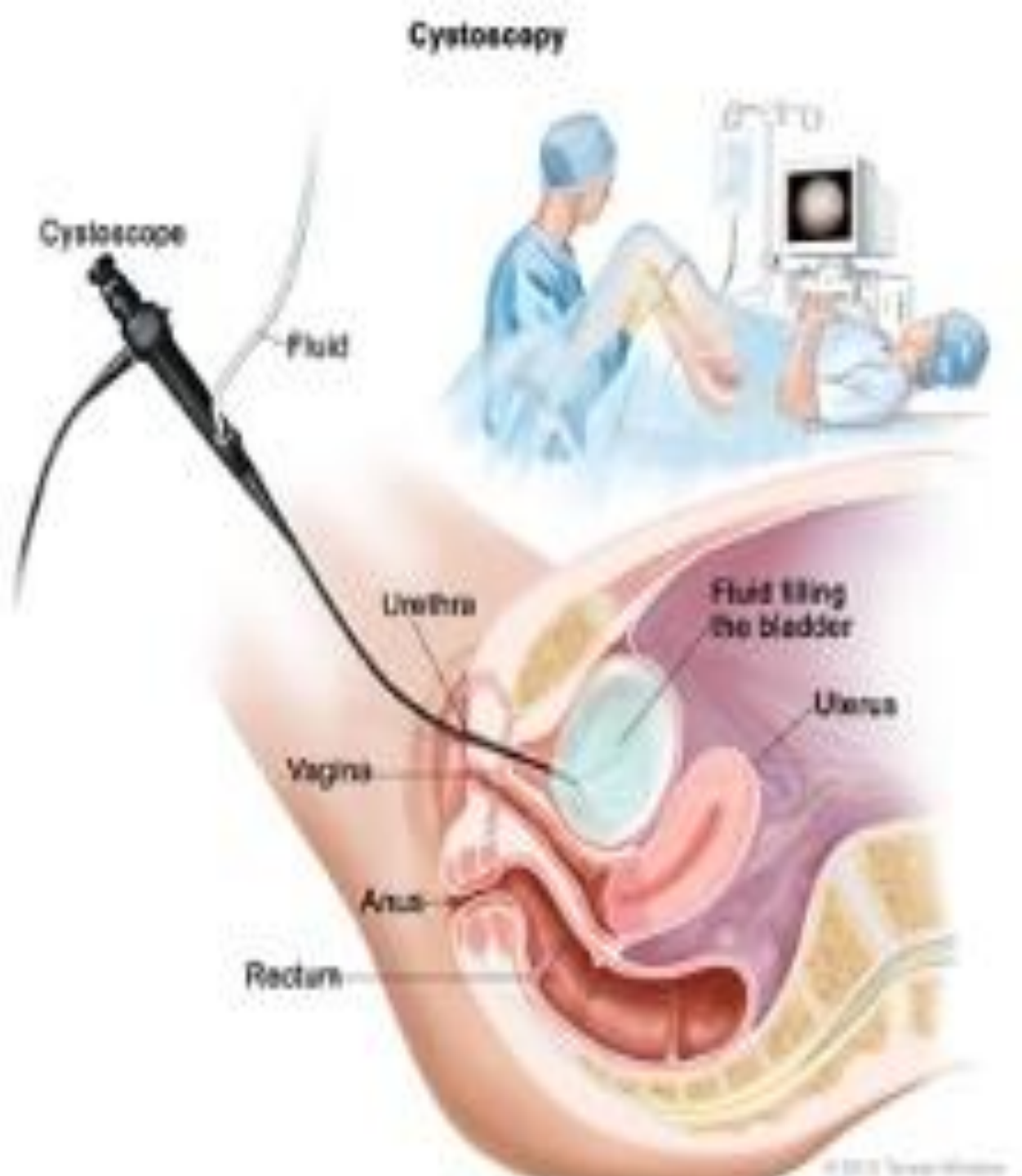
PAP test



Dilatation and Curettage




Transvaginal Ultrasound
Bladder
Uterus
Ovary
Fallopian tube
Rectum


Cystoscopy
Cystoscope
Fluid
Urethra
Fluid filling the bladder
Uterus
Vagina
Anus
Rectum

Treatment

- Treatment for this disease will vary, based on:

- The size and location of the tumor
- The uterine sarcoma stage
- The patient's general health
- Whether the cancer has just been diagnosed or has come back.

- In general, treatments options for uterine sarcoma can include:

- Surgery
- Chemotherapy
- Radiation therapy
- Hormone therapy

Treatment for leiomyosarcoma

- Stage I - radical therapy, total abdominal hysterectomy with appendages
- Stage II, III - Remove the upper third of the vagina + Radiation therapy + Chemotherapy

Treatment for endometrial stromal sarcoma

- Stage I - hysterectomy with appendages of the upper third of the vagina and pelvic lymph nodes
- Stage II, III - Radical hysterectomy Radiation therapy + Chemotherapy

Operations

Leiomyosarcoma

- of reproductive age - hysterectomy without appendages
- pre and postmenopause - hysterectomy with appendages

Endometrial stromal sarcoma

- Low grade - extended hysterectomy with appendages
- High grade - extended hysterectomy with appendages and removal of the greater omentum

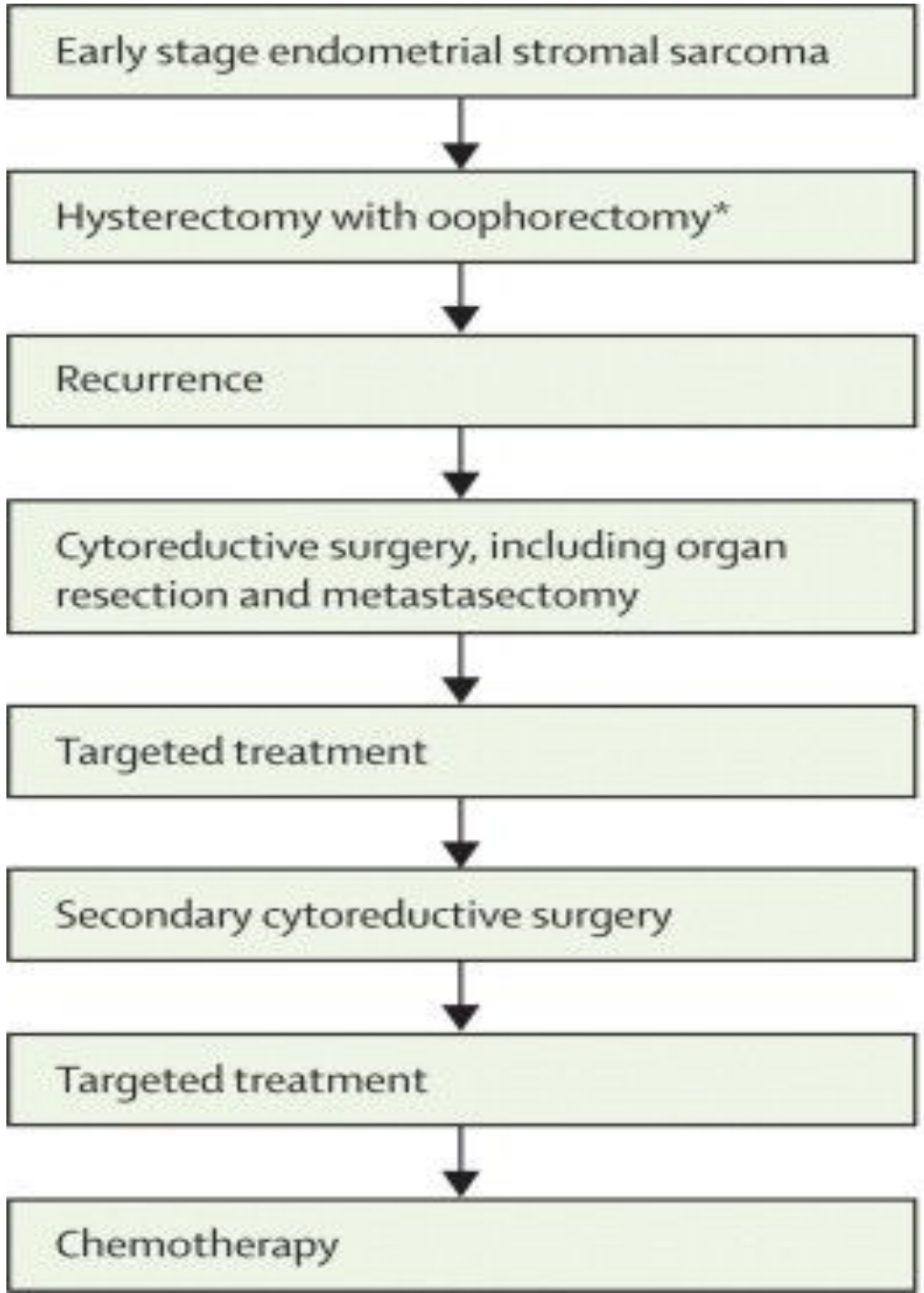
Hormone terapy

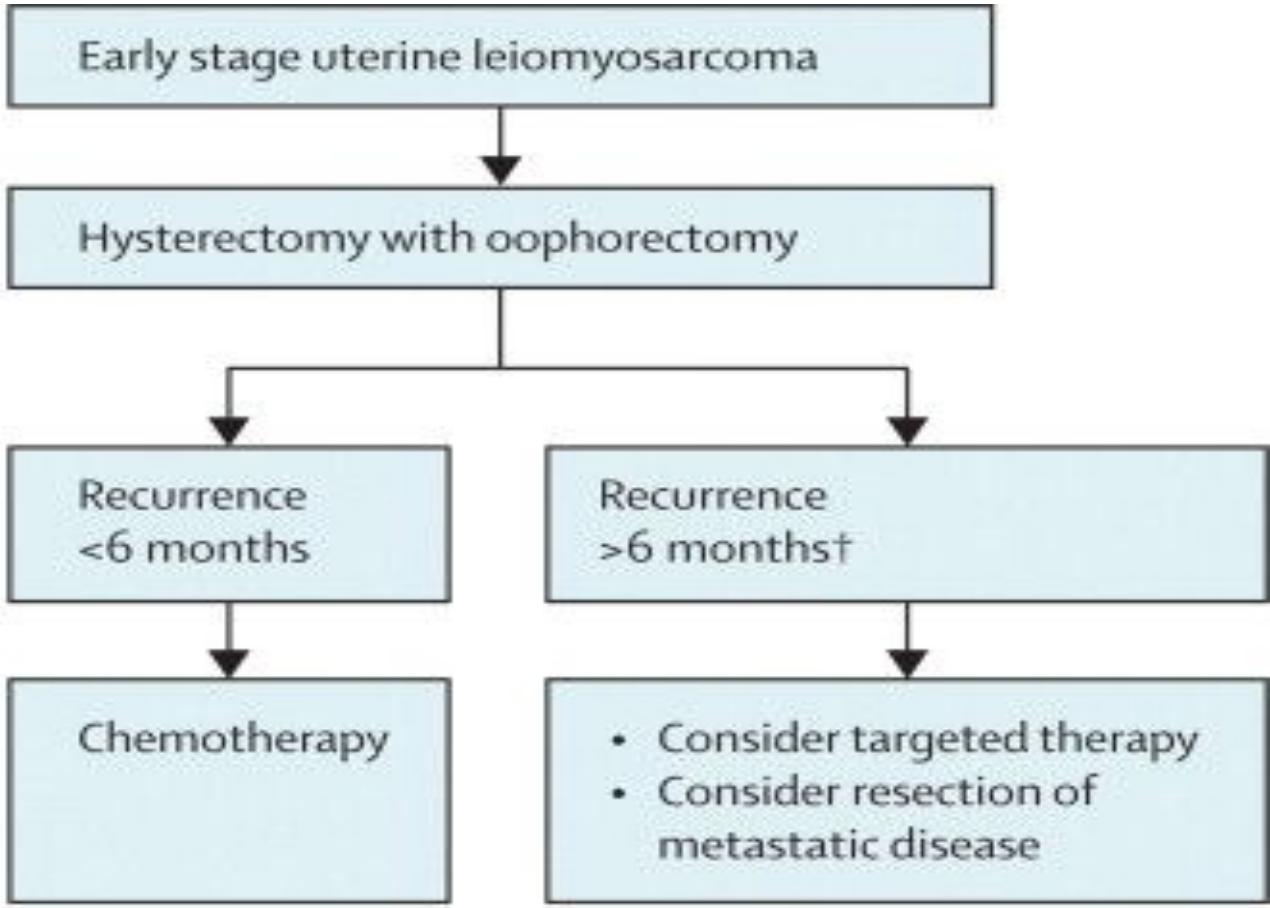
Appropriate in patients that desire fertility preservation
- young parient
- well differentiated cancer

Approximately 75% response rate
- 25% recurrence at a median of 19 months

High dose progestins

ONLY-G1 tumors!


Early stage endometrial stromal sarcoma
Hysterectomy with oophorectomy*
Recurrence
Cytoreductive surgery, including organ resection and metastasectomy
Targeted treatment
Secondary cytoreductive surgery
Targeted treatment
Chemotherapy


Early stage uterine leiomyosarcoma
Hysterectomy with oophorectomy
Recurrence <6 months
Recurrence >6 months†
Chemotherapy
• Consider targeted therapy
• Consider resection of metastatic disease

Adjuvant Radiation Therapy

- Reduces risk of recurrence
- NO impact on overall survival
- Vaginal brachytherapy
  -Intermediate risk tumors
  (Stage IA, grade 2/3 or Stage IB, grade 1/2)
- External beam radiation therapy
  -High risk tumors
  (Positive lymph nodes, cervical involvement)

observation mode

The first and second year - 1 once every 3 months

- Third year - 1 once every 6 months
- For term of life - 1 per year

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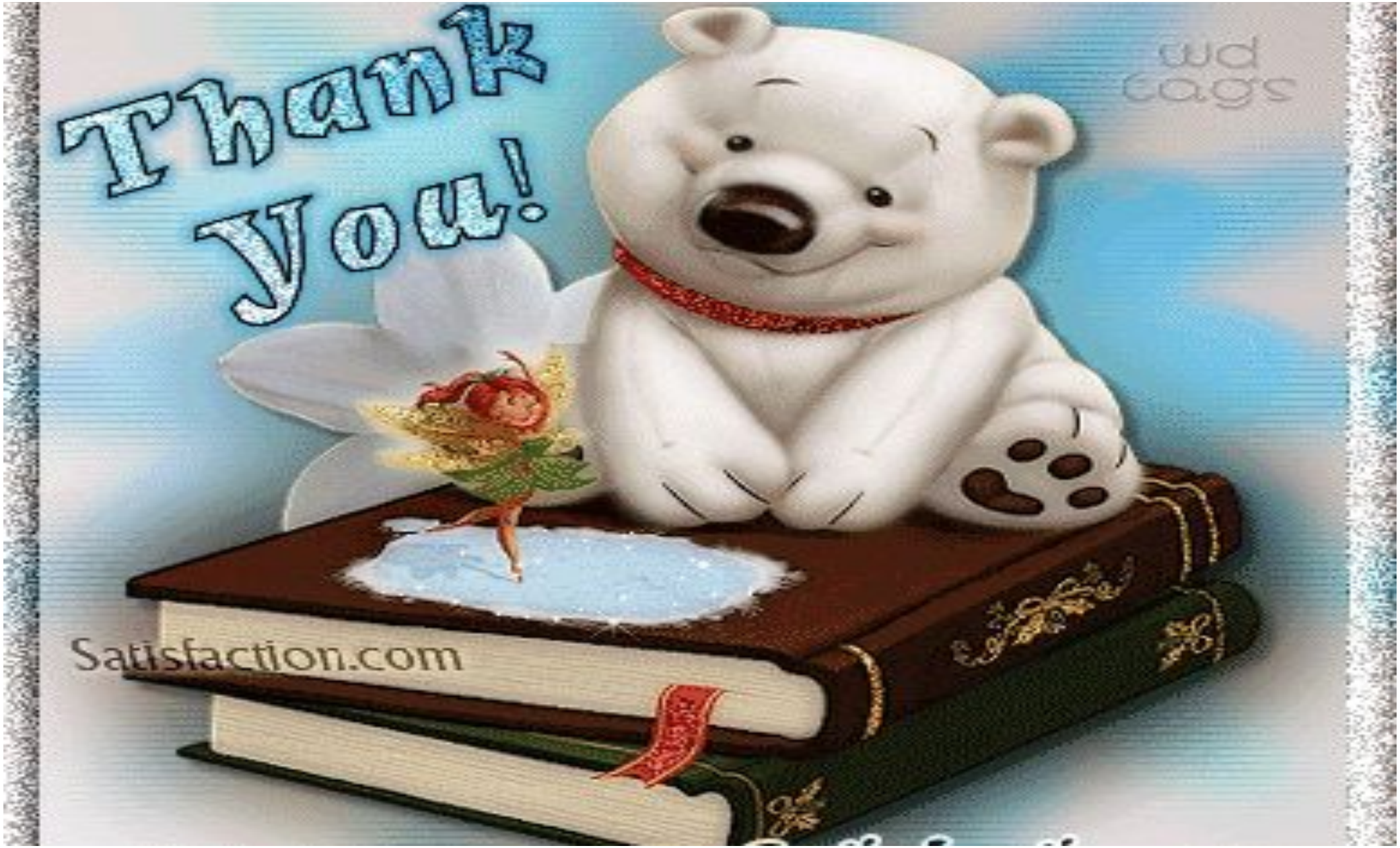
* *Zagouri F, Dimopoulos AM, Fotiou S, Kouloulias V, Papadimitriou CA (2009). "Treatment of early uterine sarcomas: disentangling adjuvant modalities". World J Surg Oncol 7: 38. PMC 2674046. PMID 19356236. doi:10.1186/1477-7819-7-38.*
* http://www.ijgo.org/article/S0020-7292%2809%2900202-1/fulltext
*http://www.cancer.gov/cancertopics/pdq/treatment/endometrial/HealthProfessional/page3
* *Gadducci A, Cosio S, Romanini A, Genazzani AR (February 2008). "The management of patients with uterine sarcoma: a debated clinical challenge". Crit. Rev. Oncol. Hematol. **65** (2): 129–42. PMID 17706430. doi:10.1016/j.critrevonc.2007.06.011.*
* [1] American Cancer Society information, accessed 03-11-2006
* [2] National Cancer Institute information, accessed 03-11-2006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