CANCER EDUCATION DAYS

Gynecologic Malignancies-Overview

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Presenter Disclosure

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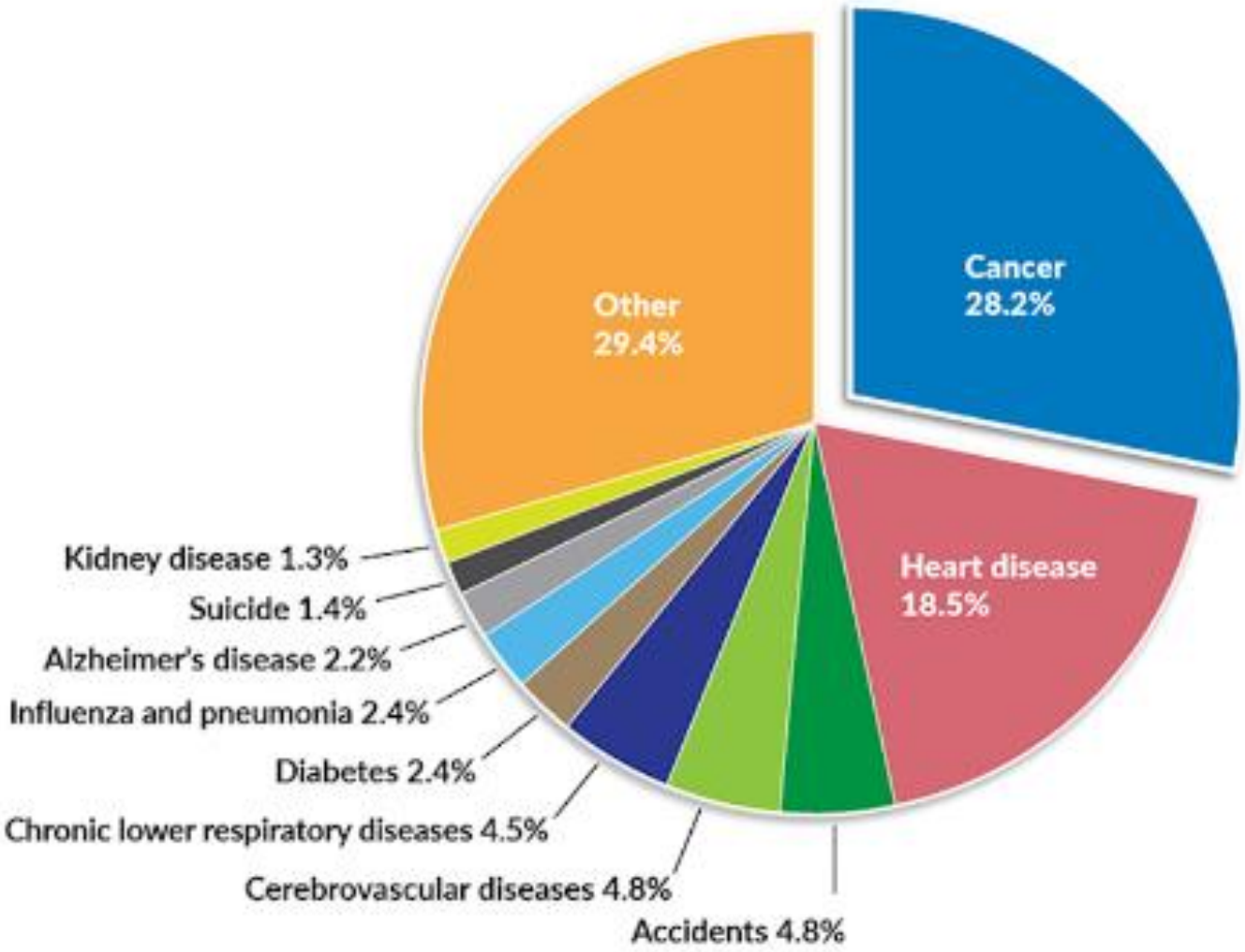
Proportion of Deaths Due to Cancer and Other Causes, Canada, 2019



In 2023, 1, 959, 310 new cancer cases and 609, 820 cancer deaths are projected to occur in the United States.

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Gynecologic Cancers

- Vulvar
- Cervix
- Uterine
- Ovary
- Fallopian Tube

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Genital system	414,350	299,540	114,810	69,660
Uterine cervix	13,960		13,960	4310
Uterine corpus	66,200		66,200	13,030
Ovary	19,710		19,710	13,270
Vulva	6470		6470	1670
Vagina & other female genital	8470		8470	1740

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Gynecologic Cancers

- Statistics/epidemiology
- Biology/Pathogenesis
- Symptom presentation
- Clinical Evaluation/Pathology
- Staging(clinical /pathological)
- Treatment Approaches
- Prognosis
- Toxicities

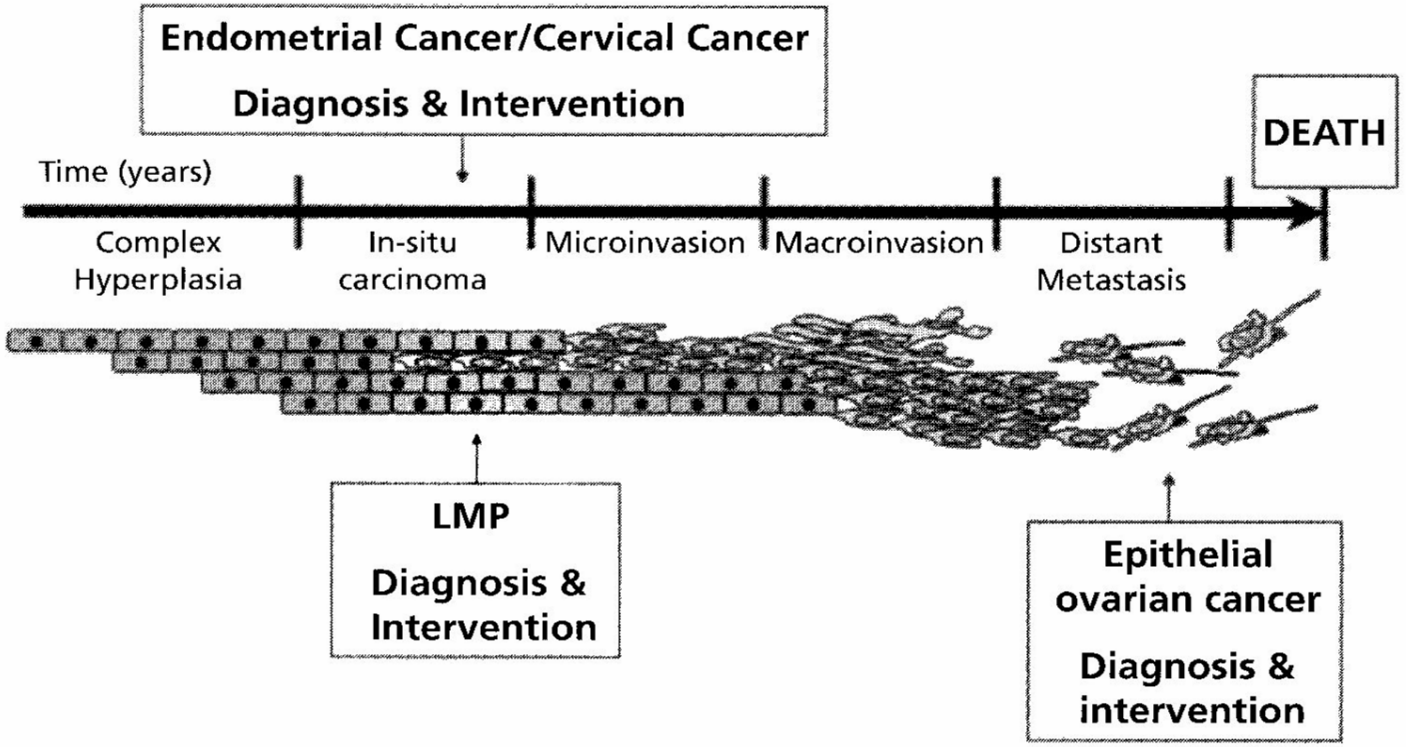


FIG. 4-1. Paradigm of cancer progression. The average age at diagnosis of cervical intraepithelial neoplasia III and/or carcinoma *in situ* (CIS) is approximately 42 years. Progression from CIS to invasive carcinoma occurs over 8 to 10 years. The majority of patients with invasive cervical cancer die within 10 to 15 years of their diagnosis. In comparison, a precursor or early detectable lesion for invasive ovarian cancer has not yet been found. Low malignant potential tumors, a less aggressive counterpart, are diagnosed between the fourth and fifth decade. Invasive ovarian cancer is diagnosed approximately 15 years later, with the majority of patients diagnosed dying of the disease within 5 years.

TABLE 19.5. *Risk factors for cervical cancer and its precursor lesions*

Demographic factors
Older age
Race (e.g., Black, Hispanic, American Indian)
Residence in selected parts of Africa, Asia, or Latin America
Low socioeconomic status
Low educational level
Behavioral and sexual factors
Large number of sexual partners
Early age at first coitus
Cigarette smoking
Long-term oral contraceptive use
Diet low in folate, carotene, vitamin C
Medical/gynecologic factors
Multiparity
Early age at first pregnancy
History of sexually transmitted diseases (especially herpes genitalis or HPV-associated lesions)
Infection with specific types of HPV
Lack of routine cytologic screening
Immunosuppression (any cause)

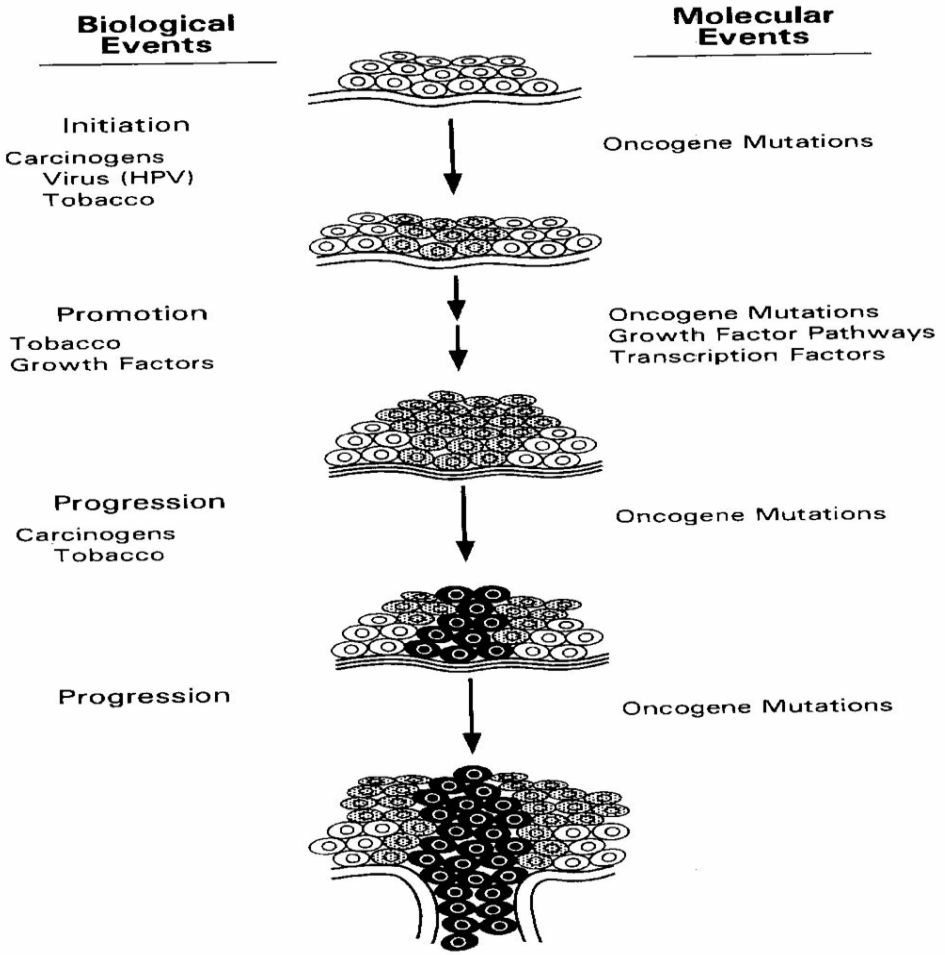


FIG. 3.9. Multistage model for the development of cervical carcinoma. The transition from normal to dysplastic to malignant cervical epithelium is shown in association with known risk factors, such as HPV infection, tobacco use, and growth-factor stimulation. Molecular mechanisms accompanying these changes include the binding of tumor-suppressor gene products by HPV oncoproteins, activation of growth-factor pathways, and genetic alterations such as c-*myc* amplification and LOH at 3p. Tumor promoters stimulate the division of initiated, partially transformed cells. Accumulation of additional oncogene/tumor-suppressor gene mutations effects full transformation and invasion of the basement membrane.

TABLE 61.8. STAGING OF CARCINOMA OF THE UTERINE CERVIX

AJCC	FIGO	
Primary tumor (T)		
TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
Tis		Carcinoma *in situ*
T1	I	Cervical carcinoma confined to uterus (extension to corpus should be disregarded)
T1a	IA	Preclinical invasive carcinoma, diagnosed by microscopy only
T1a1	IA1	Minimal microscopic stromal invasion
T1a2	IA2	Tumor with an invasive component 5 mm or less in depth taken from the base of the epithelium and 7 mm or less in horizontal spread
T1b	IB	Clinical lesions confined to the cervix or preclinical lesions greater than IA
	IB1	Clinical lesions no greater than 4 cm in size
	IB2	Clinical lesions greater than 4 cm in size
T2	II	Cervical carcinoma invades beyond uterus but not to the pelvic wall or to the lower third of vagina
T2a	IIA	Tumor without parametrial invasion
T2b	IIB	Tumor with parametrial invasion
T3	III	Cervical carcinoma extends to the pelvic wall and/or involves lower third of vagina and/or causes hydronephrosis or nonfunctioning kidney
T3a	IIIA	Tumor involves lower third of the vagina, with no extension to pelvic wall
T3b	IIIB	Tumor extends to pelvic wall and/or causes hydronephrosis or nonfunctioning kidney
T4[a]	IVA	Tumor invades mucosa of the bladder or rectum and/or extends beyond the true pelvis
Regional lymph nodes (N)		
Regional lymph nodes include paracervical, parametrial, hypogastric (obturator), common, internal and external iliac, presacral, and sacral.		
NX		Regional lymph nodes cannot be assessed
N0		No regional lymph node metastasis
N1		Regional lymph node metastasis
Distant metastasis (M)		
MX		Presence of distant metastasis cannot be assessed
M0		No distant metastasis
M1	IVB	Distant metastasis

AJCC, American Joint Committee on Cancer; FIGO, International Federation of Gynecologists and Oncologists.
[a]*Note:* Presence of bullous edema is not sufficient evidence to classify a tumor as T4.
Modified from Fleming ID, Cooper JS, Henson DE, et al. eds. *AJCC cancer staging manual,* 5th ed. Philadelphia: Lippincott-Raven, 1997:173–174.

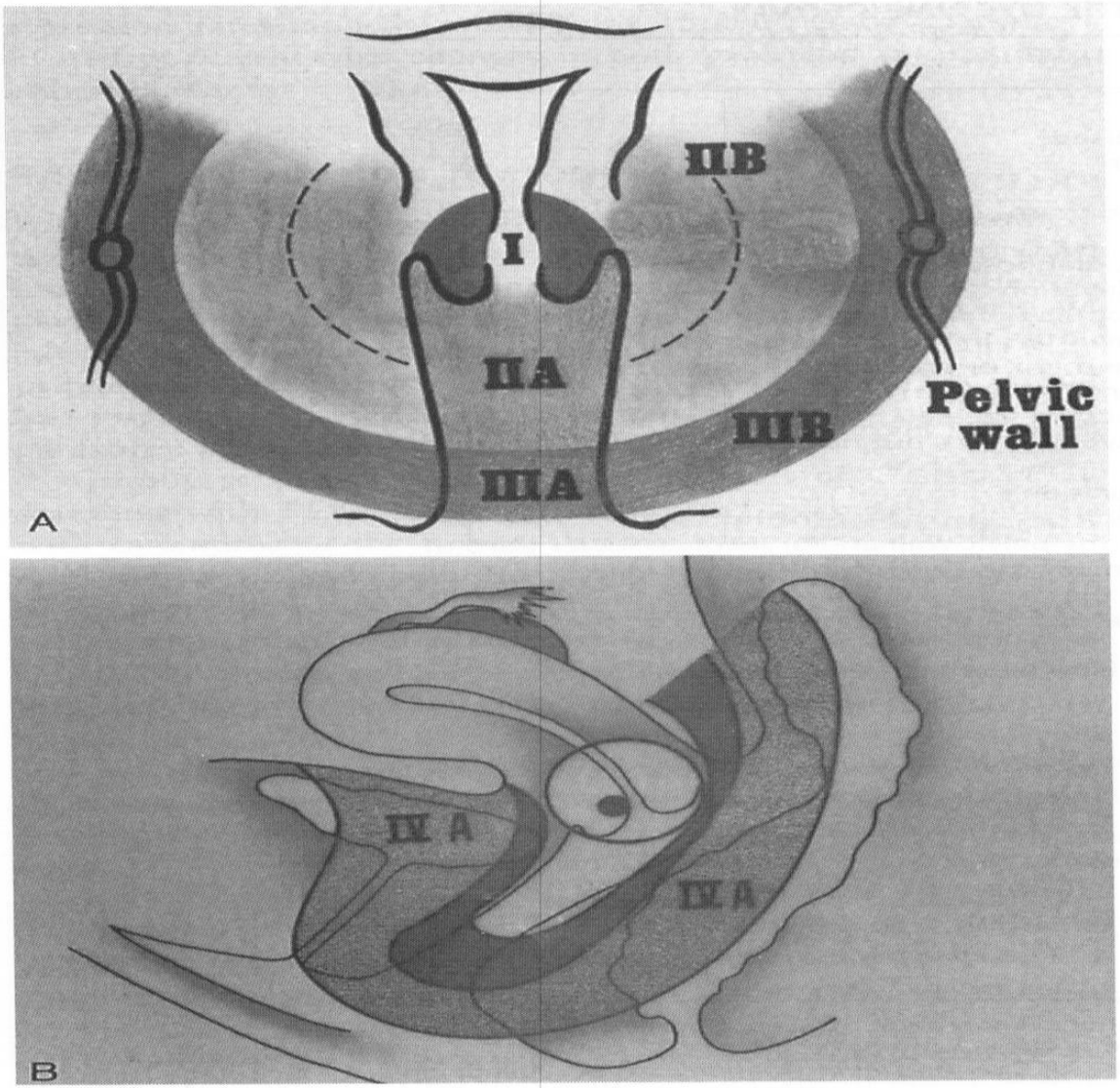
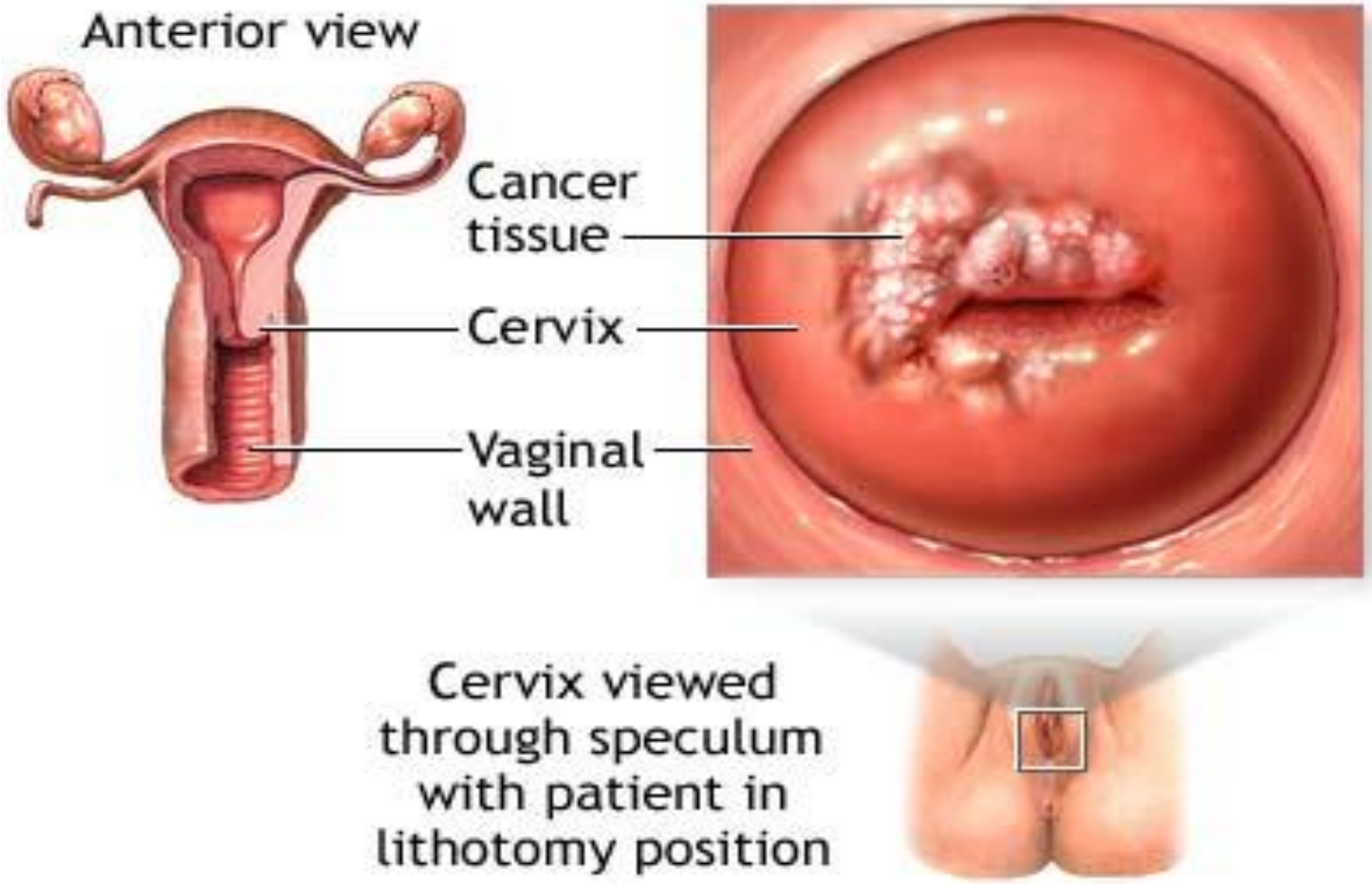


FIGURE 61.5. Diagrammatic representation of various anatomic stages of carcinoma of the uterine cervix, according to the FIGO classification.



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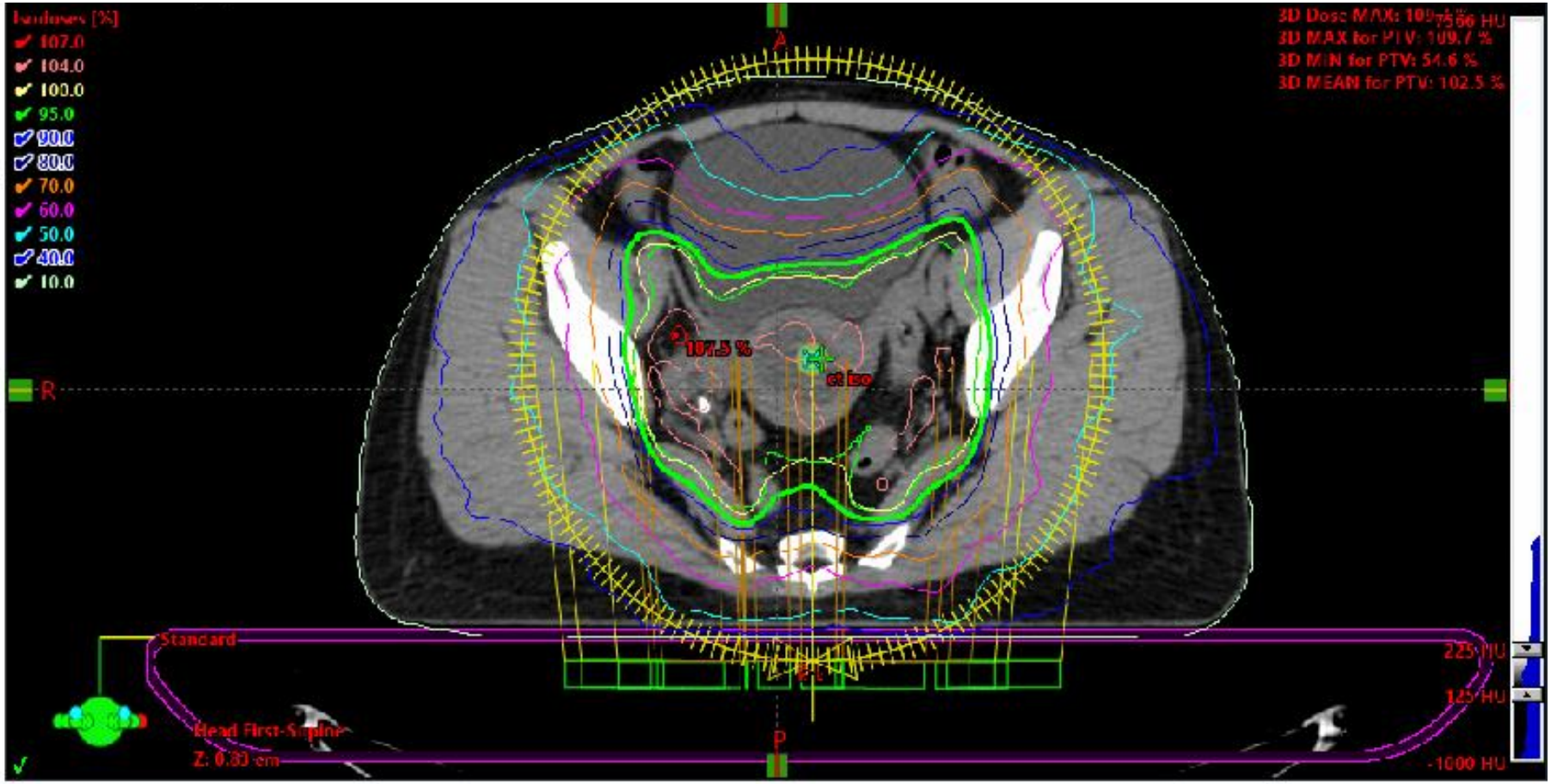

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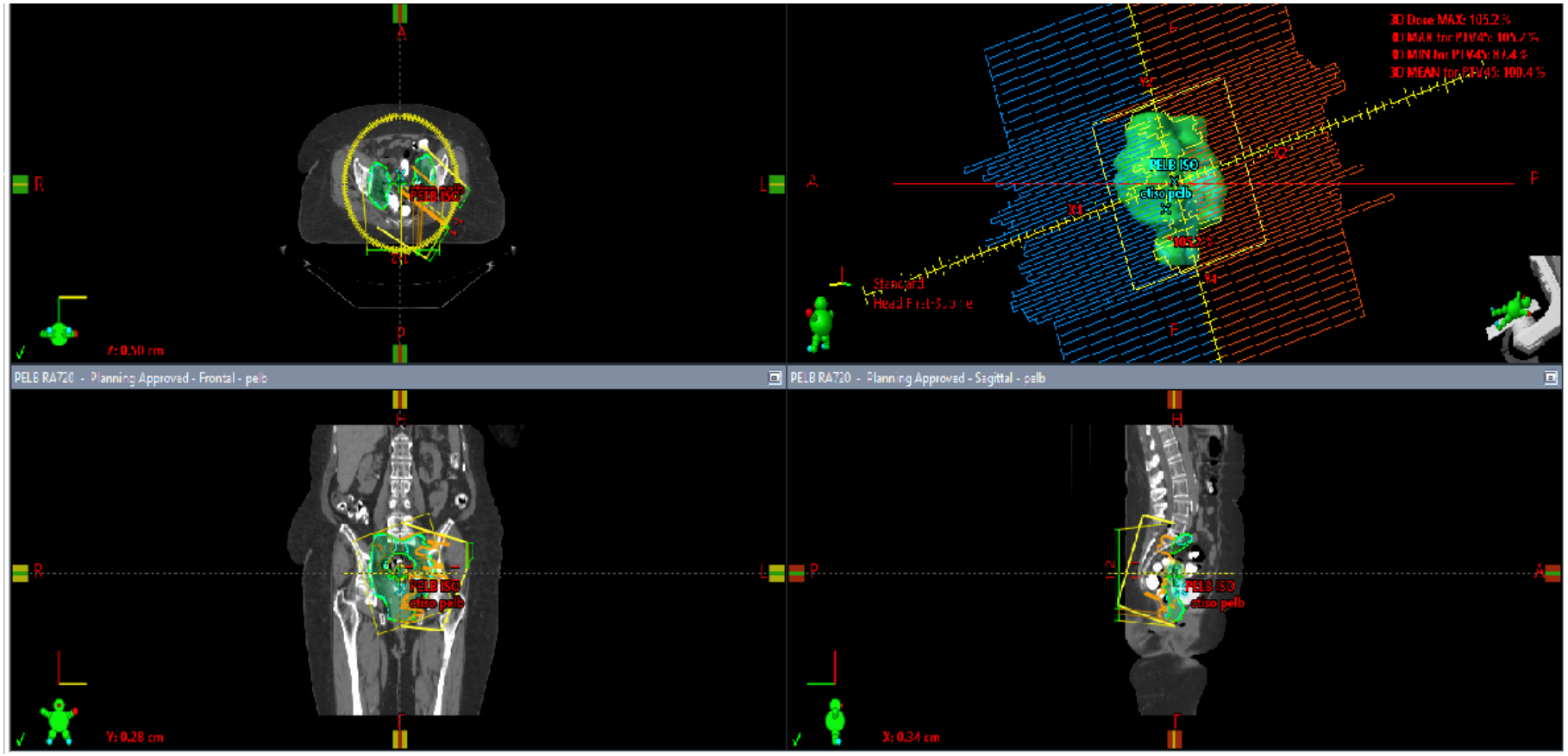

Objectives | Optimization Objectives | Dose Statistics | Reference Points | Calculation Models | Plan Sum

e/Energy	MLC	Field Weight	Scale	Gantry Rtn [deg]	Coll Rtn [deg]	Couch Rtn [deg]	Wedge	Field X [cm]	X1 [cm]	X2 [cm]	Field Y [cm]	Y1 [cm]	Y2 [cm]	X [cm]	Y [cm]	Z [cm]	Calculated SSD [cm]	MU	Ref. D [cGy]
- 6X	VMAT	1.738	IEC61217	180.1 CW 170.9	17.0	0.0	None	17.00	-8.00	+9.00	17.90	-9.20	+8.70	0.34	-0.10	0.63	88.9	312	
- 6X	VMAT	1.589	IEC61217	179.9 CCW 180.1	343.0	0.0	None	17.00	-9.00	+8.00	17.90	-9.20	+8.70	0.34	-0.10	0.63	88.9	285	

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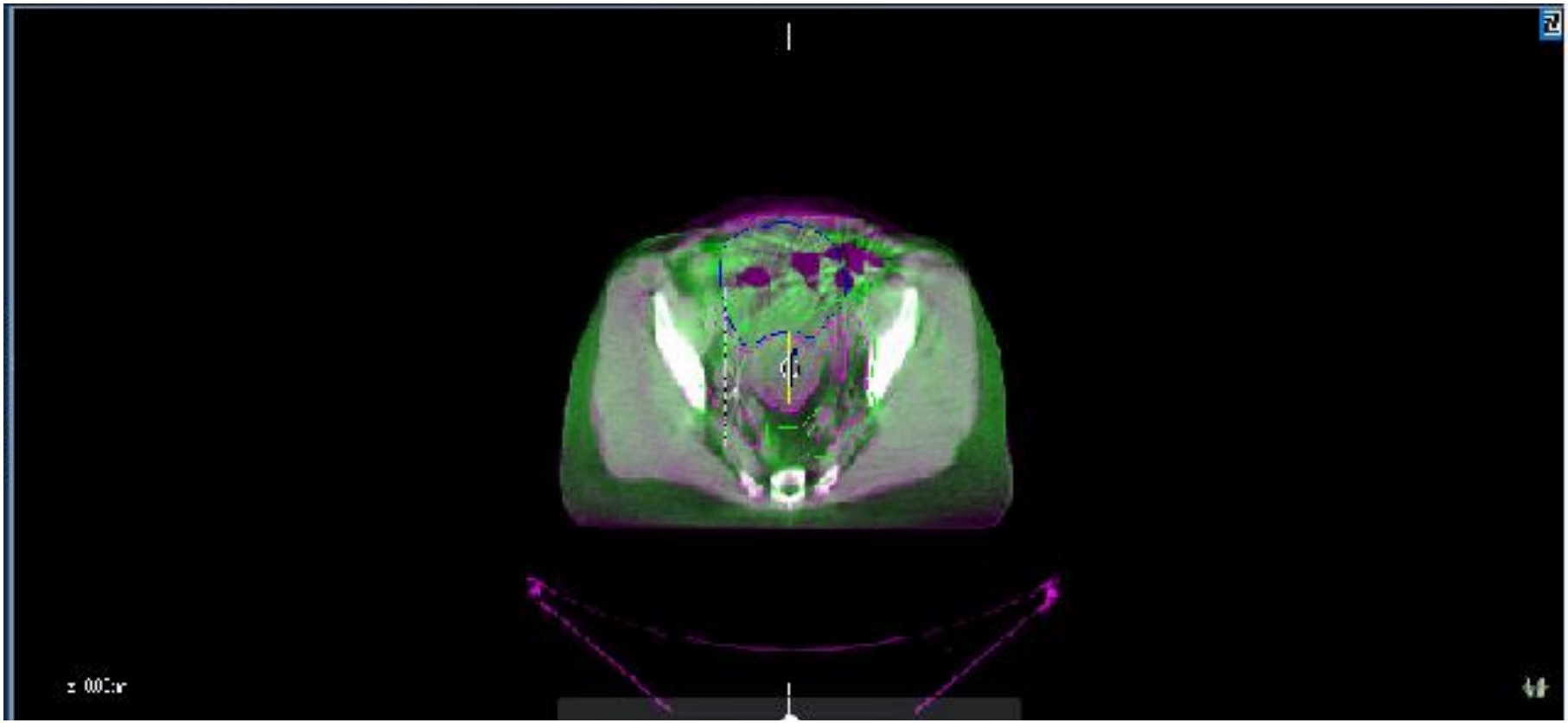

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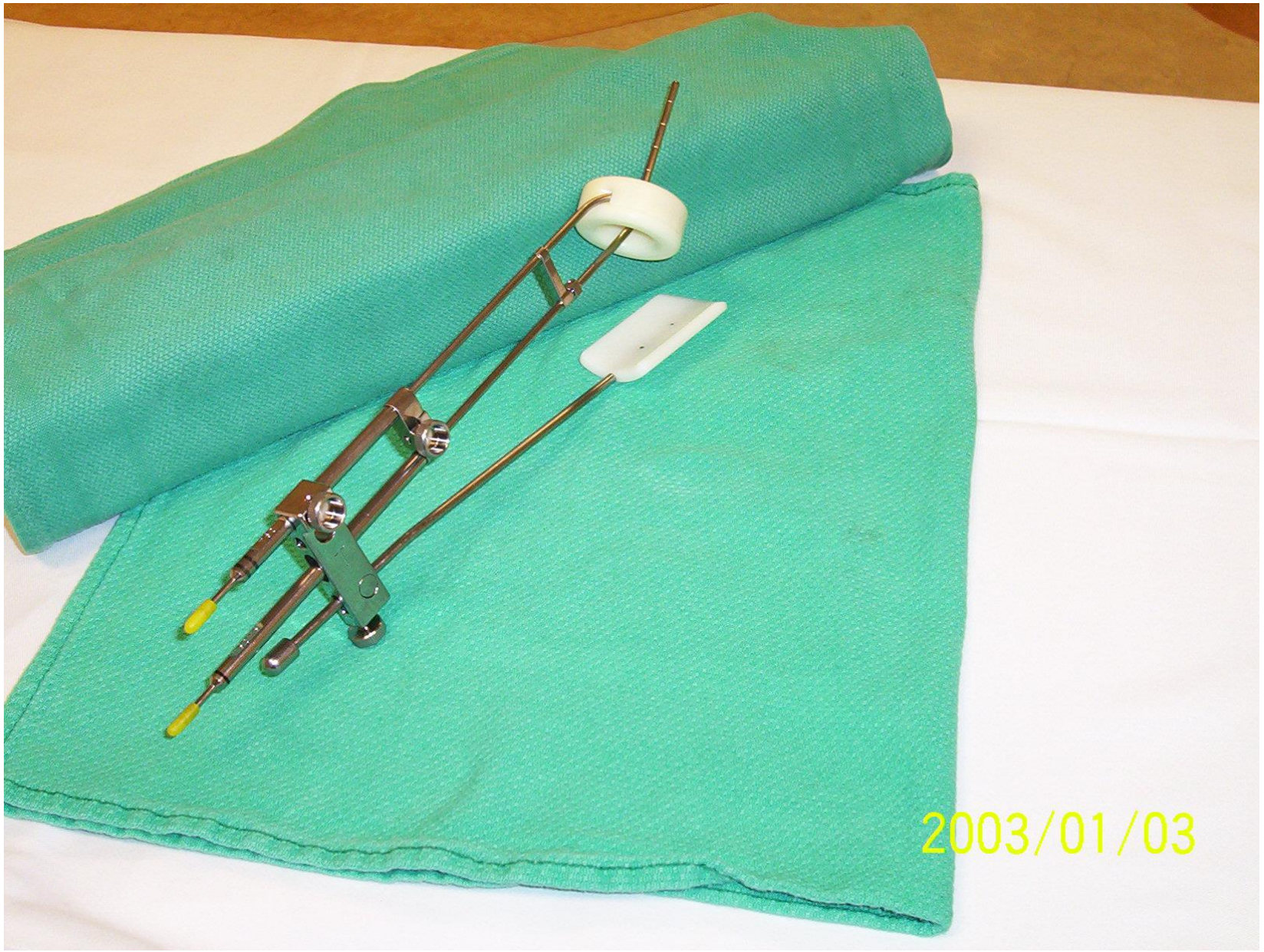
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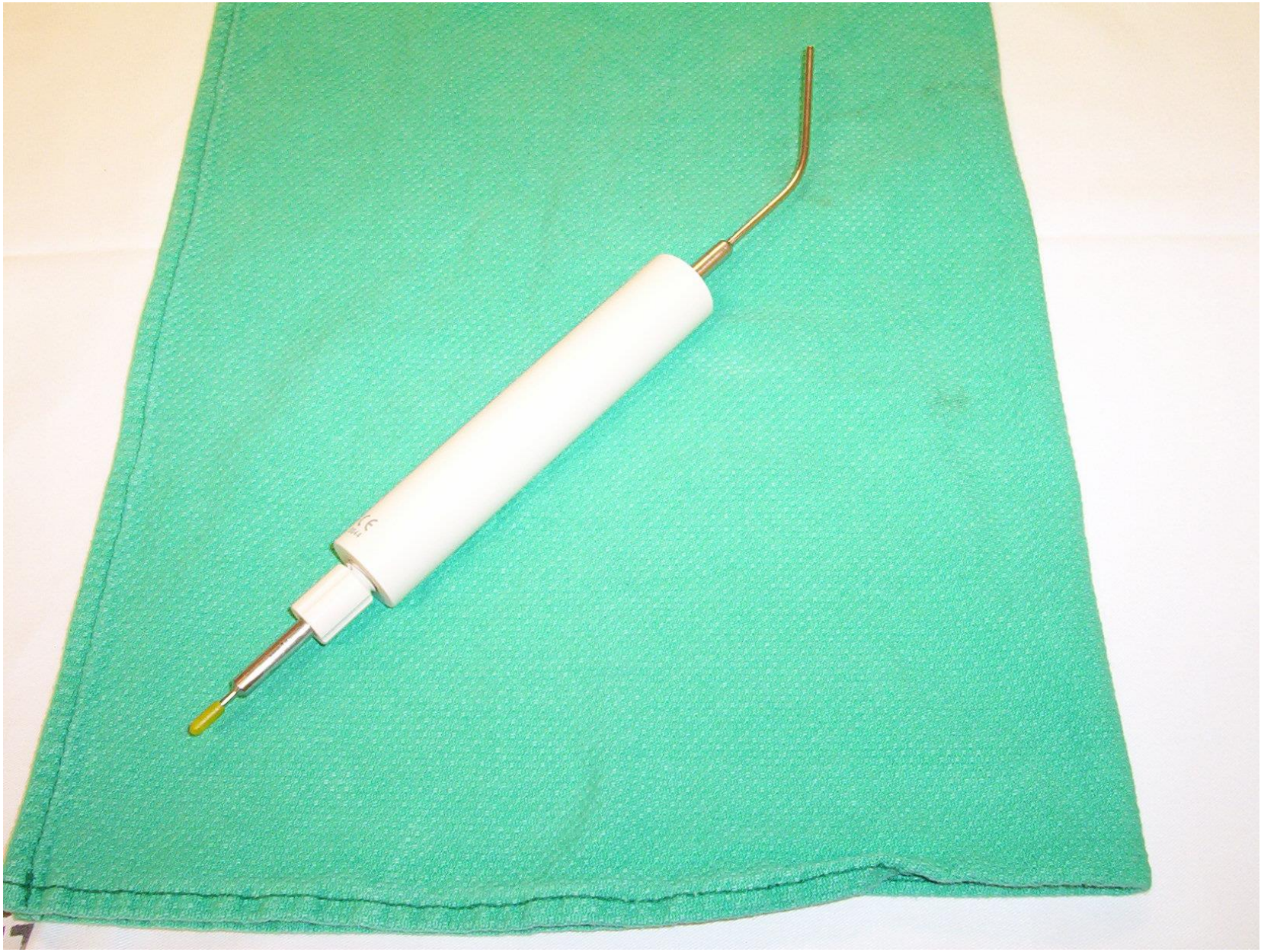

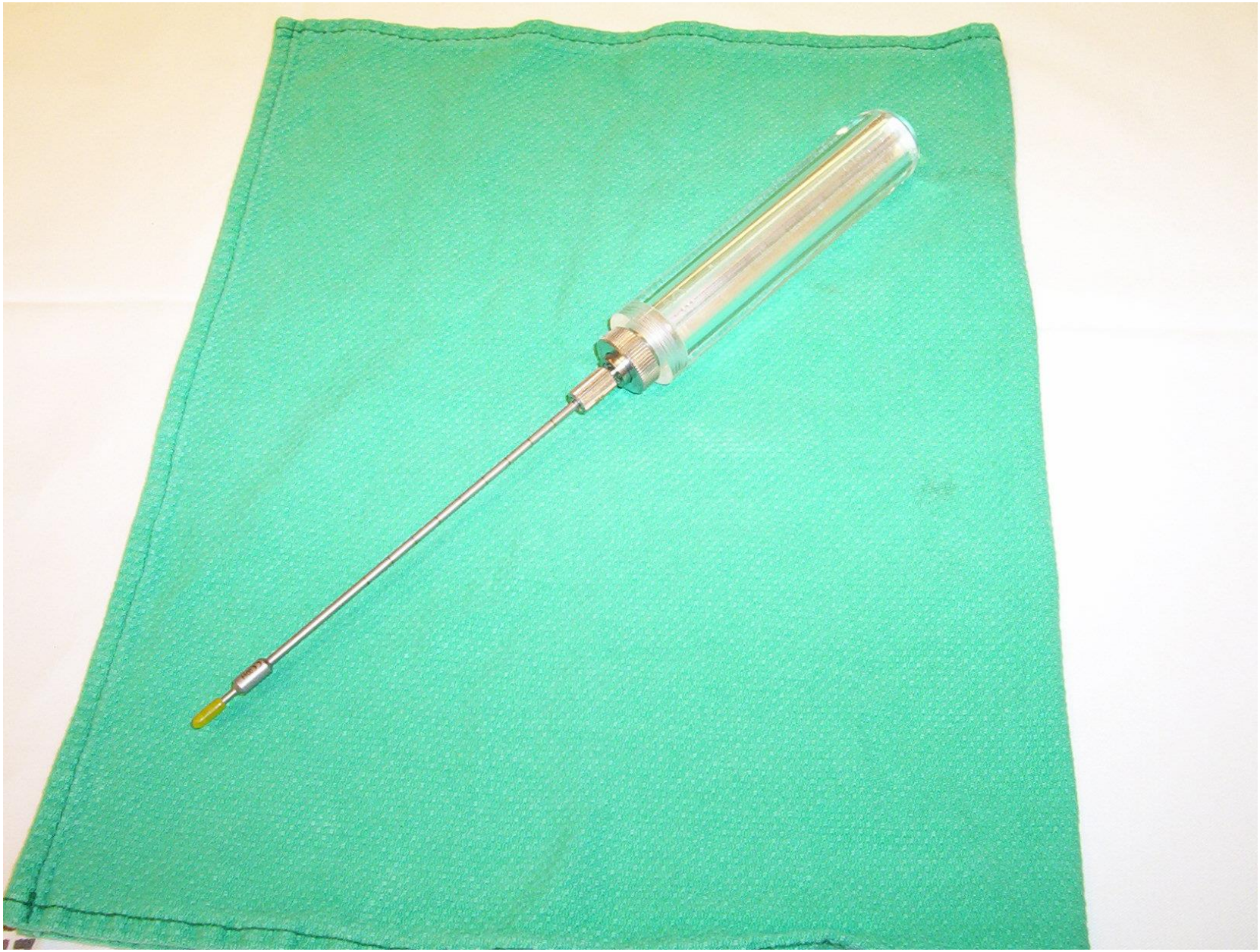

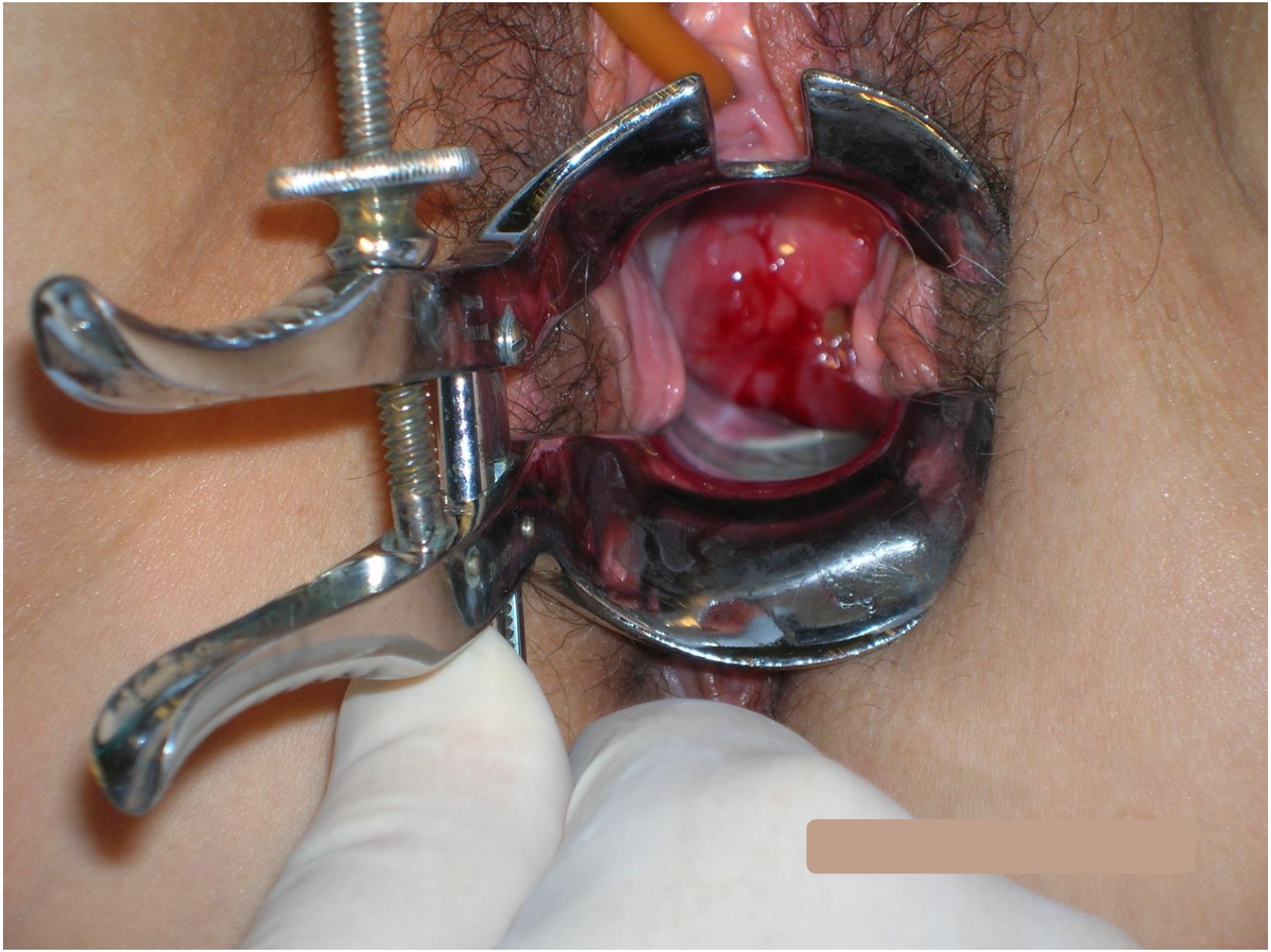

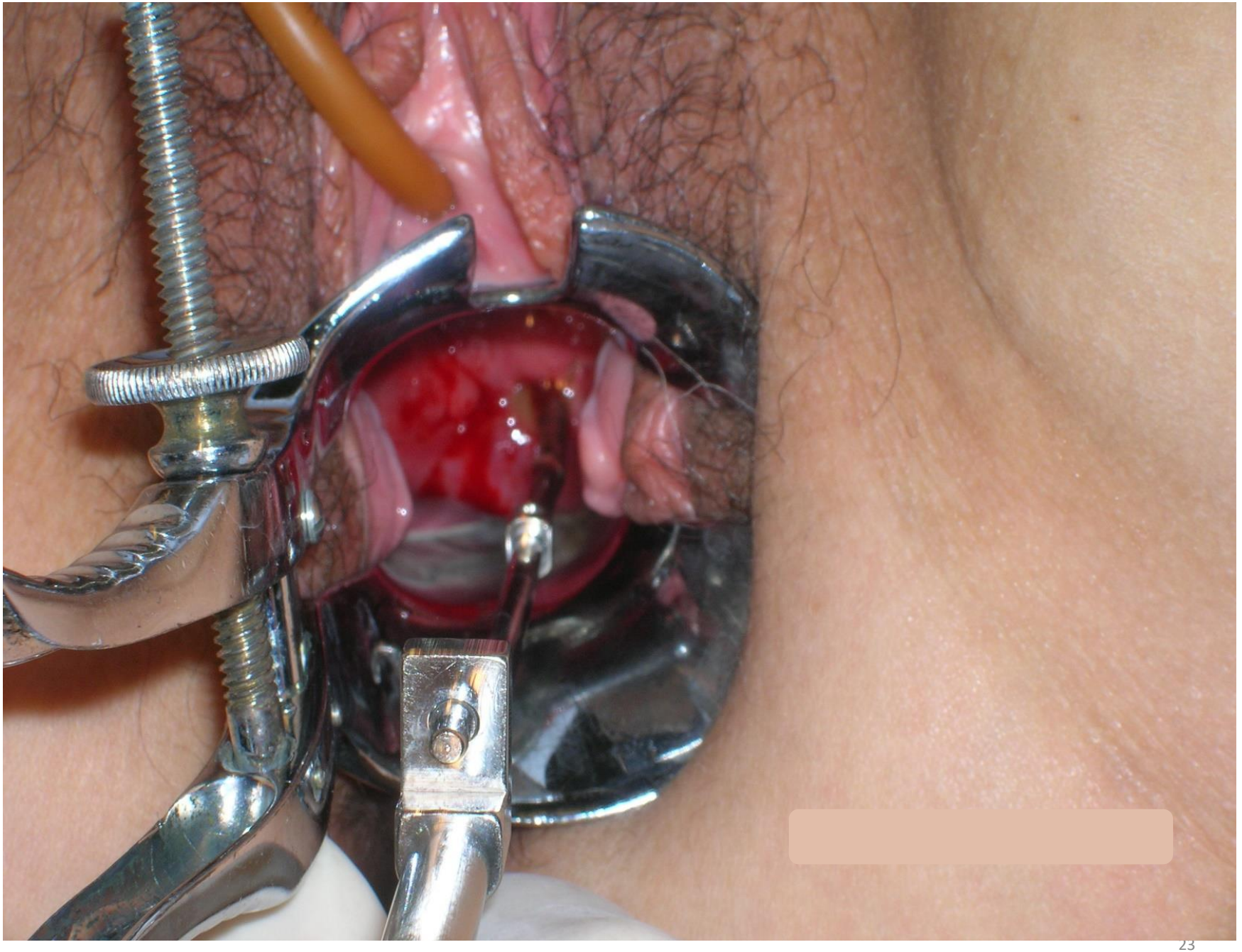

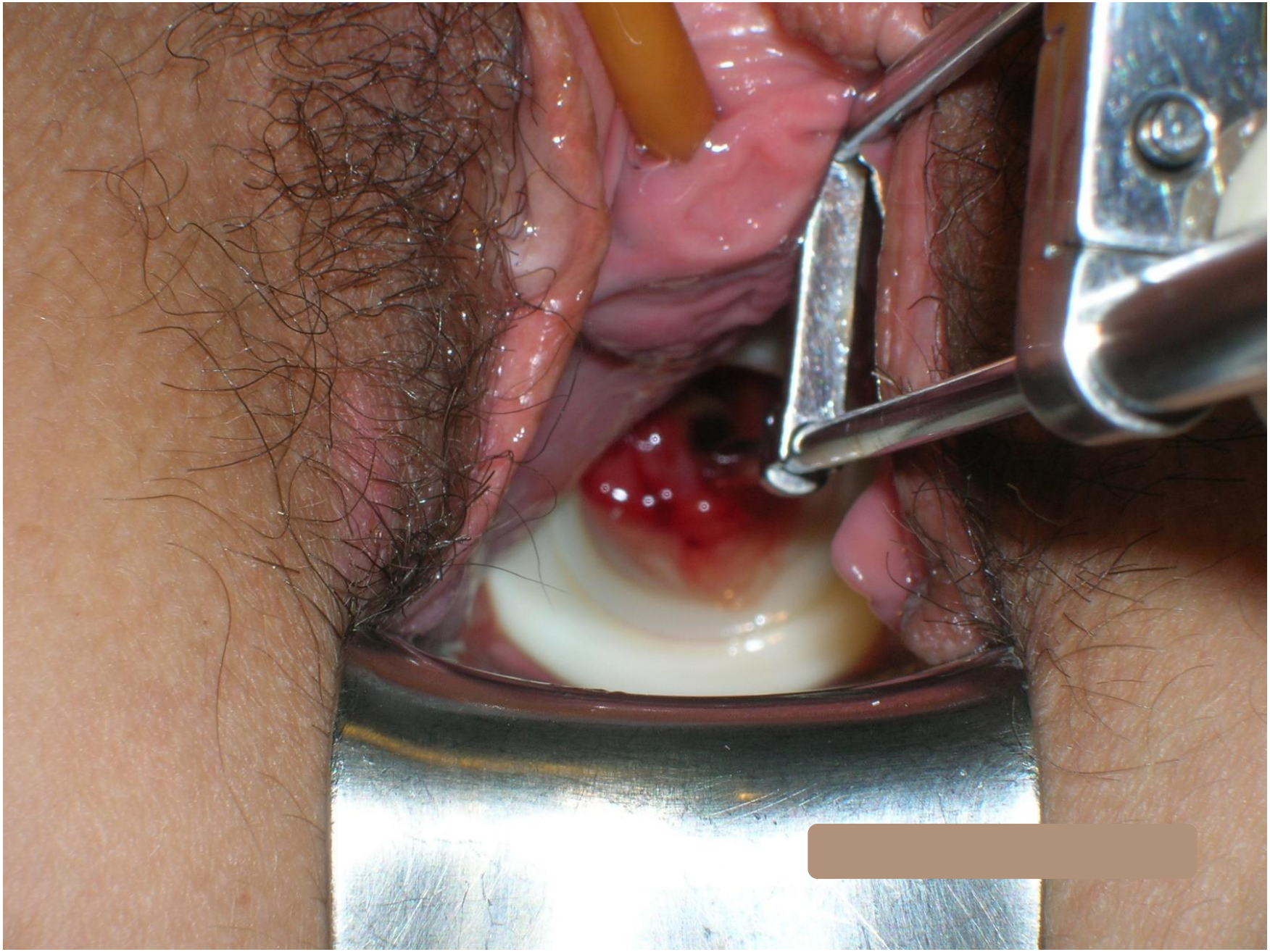

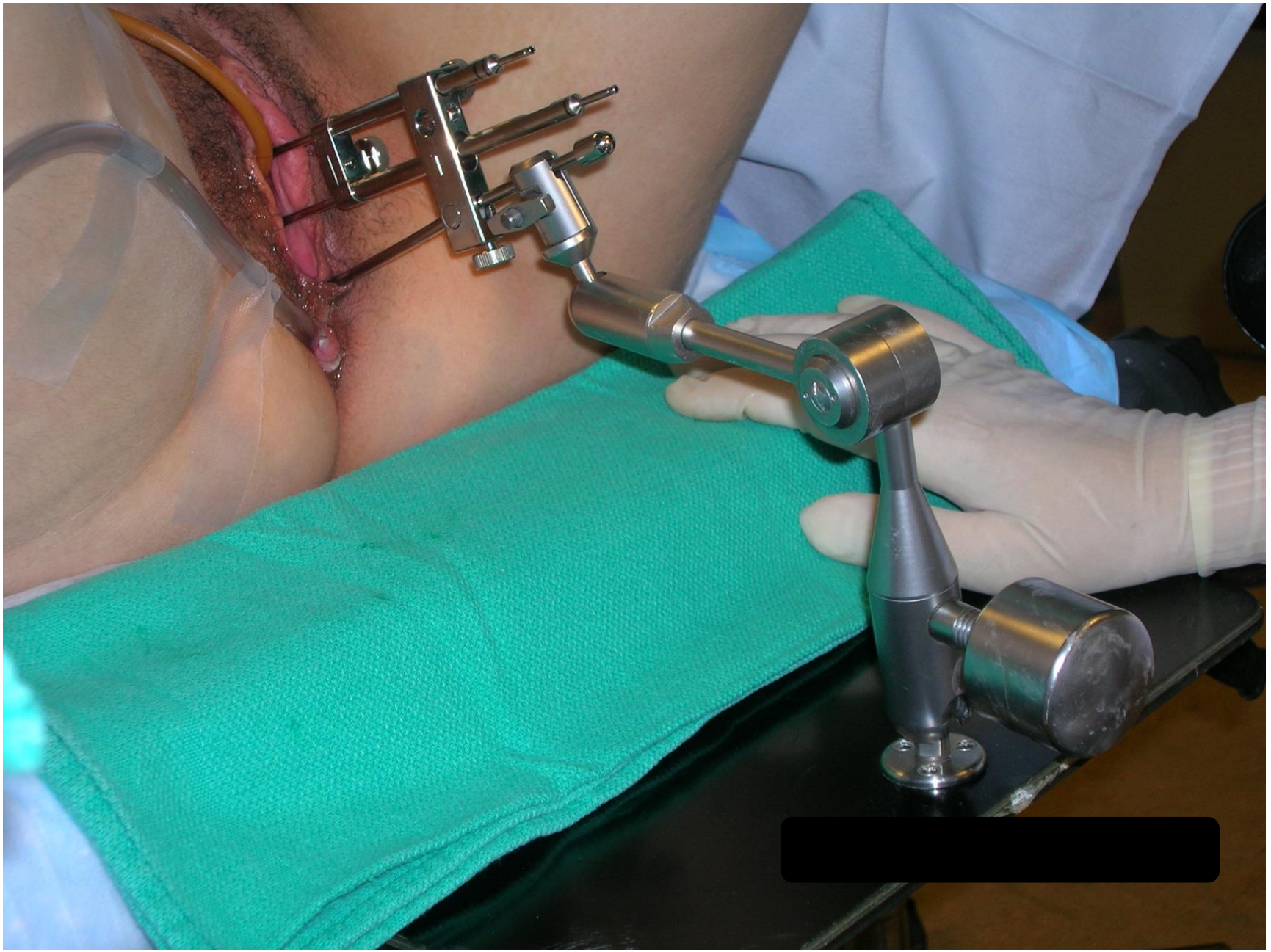

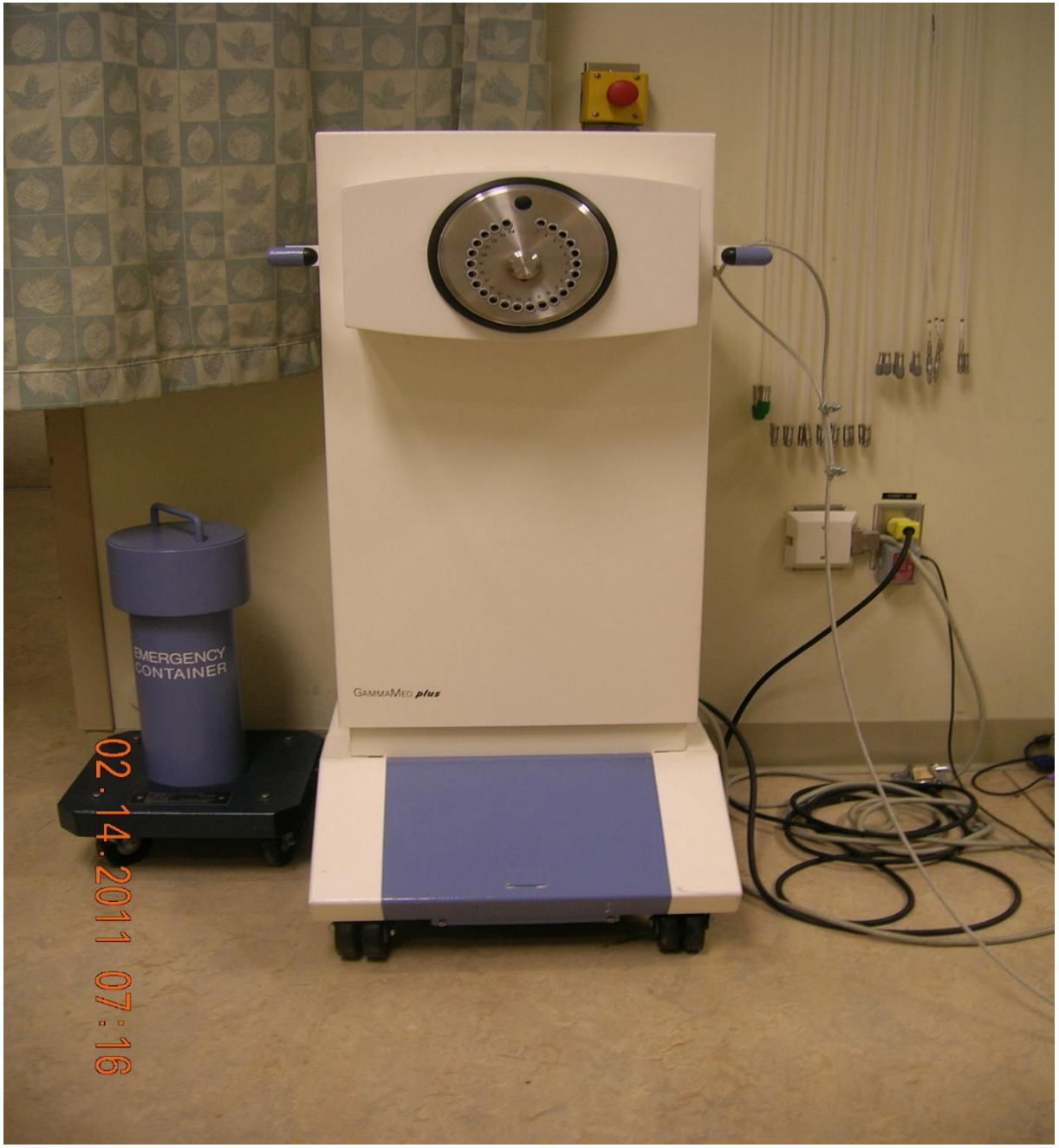
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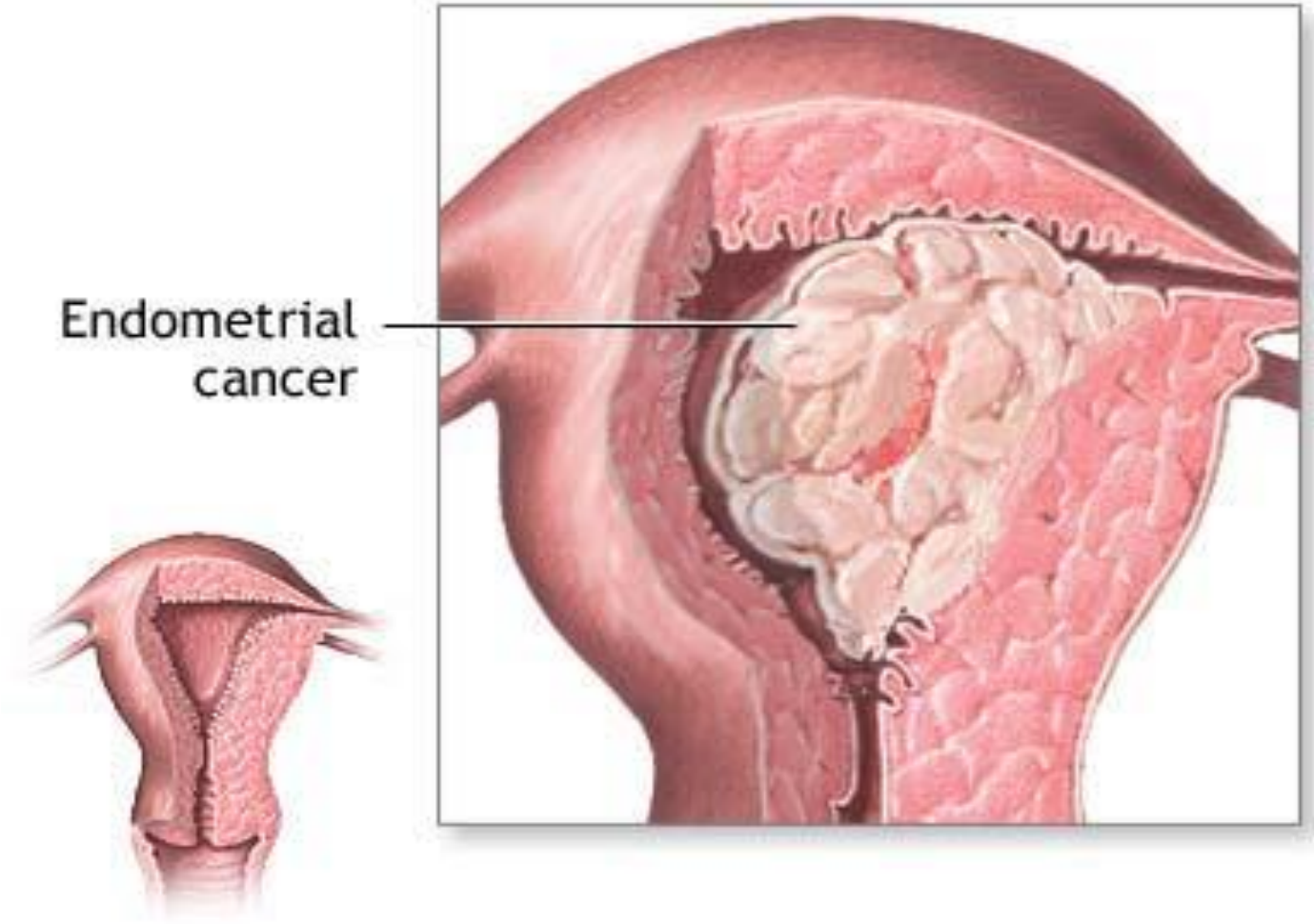

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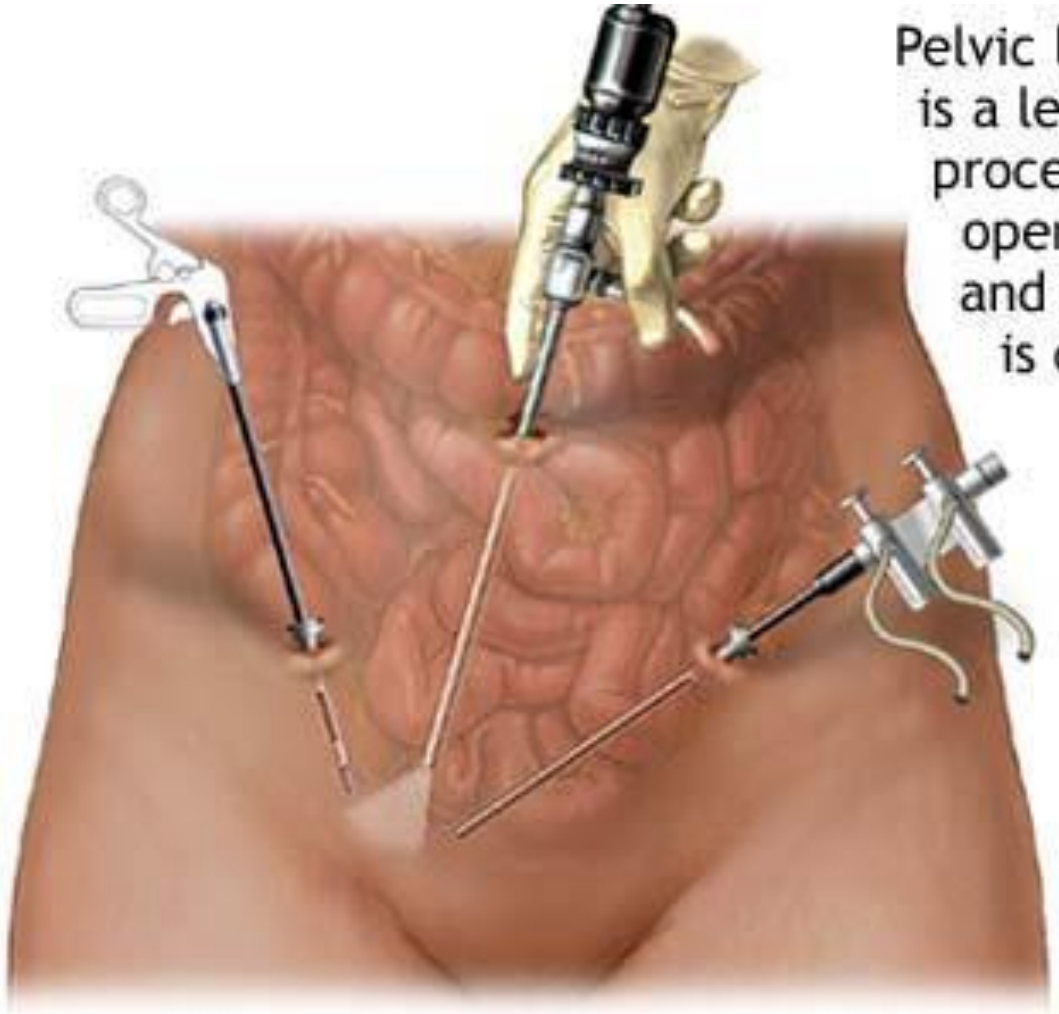
TABLE 62.9. PATHOLOGIC FIGO CORPUS CANCER STAGING

Stage	IA	G123	Tumor limited to endometrium
	IB	G123	Invasion to $<½$ myometrium
	IC	G123	Invasion $>½$ myometrium
	IIA	G123	Endocervical glandular involvement only
	IIB	G123	Cervical stromal invasion
	IIIA	G123	Tumor invades serosa or adnexa or positive peritoneal cytology
	IIIB	G123	Vaginal metastases
	IIIC	G123	Metastases to pelvic or periaortic lymph nodes
	IVA	G123	Tumor invasion of bladder or bowel mucosa
	IVB	—	Distant metastases including intraabdominal or inguinal lymph nodes

FIGO, International Federation of Gynecology and Obstetrics.
From International Federation of Gynecology and Obstetrics. Classification and staging of malignant tumors in the female pelvis: annual report on the results of treatment in gynecological cancer. *Int J Gynaecol Obstet* 1989;28: ission.

Stage	Description
I	Tumor confined to the uterus
IA	<50% invasion of the myometrium
IB	≥50% invasion of the myometrium
II	Tumor invades the cervical stroma but does not extend beyond the uterus
III	Local or regional spread of tumor
IIIA	Serosal or adnexal invasion
IIIB	Vaginal or parametrial involvement
IIIC	Metastasis to pelvic or paraaortic lymph nodes
IIIC1	Pelvic lymph node involvement
IIIC2	Paraaortic lymph node involvement (with or without pelvic nodes)
IV	Extension to the pelvic wall, lower one-third of the vagina, or hydronephrosis or nonfunctioning kidney
IVA	Invasion of bladder or bowel mucosa
IVB	Distant metastases, including abdominal, or involvement of inguinal lymph nodes



Pelvic laparoscopy is a less-invasive procedure than open surgery and recovery is quicker

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TABLE 62.15. STAGE I ENDOMETRIAL CARCINOMA: SURVIVAL RATES

Study	No. of Patients	5-Year Survival (%)
Wharam et al. (142)	269	81 (NED)
Graham (38)	123	74 (crude)
Malkasian et al. (92)	409	82 (actuarial)
Underwood et al. (135)	220	91 (actuarial)
Frick et al. (34)	239	78 (crude)
Salazar et al. (118)	307	84 (actuarial)
Brady et al. (12)	99	88 (crude)
Stukes et al. (128)	304	87 (acturial)
Fitcher et al. (114)	161	95 (actuarial)
Hori et al. (103)	278	85 (actuarial 10-y)
Grigsby et al. (49)	858	89 (NED)
Piver and Hempling (109)	133	96 (NED)
Weiss et al. (140)	61	87 (actuarial)

NED, no evidence of disease.

only (IIA) have a much better 5-year survival rate than those with cervical stromal invasion (IIB). Bruckman and colleagues (14) achieved excellent results with the use of preoperative external-beam radiation therapy of 40 Gy to the whole pelvis combined with a brachytherapy placement for 4,000 mgh Ra eq, followed by a TAH-BSO. None of the 42 patients treated with this regi-

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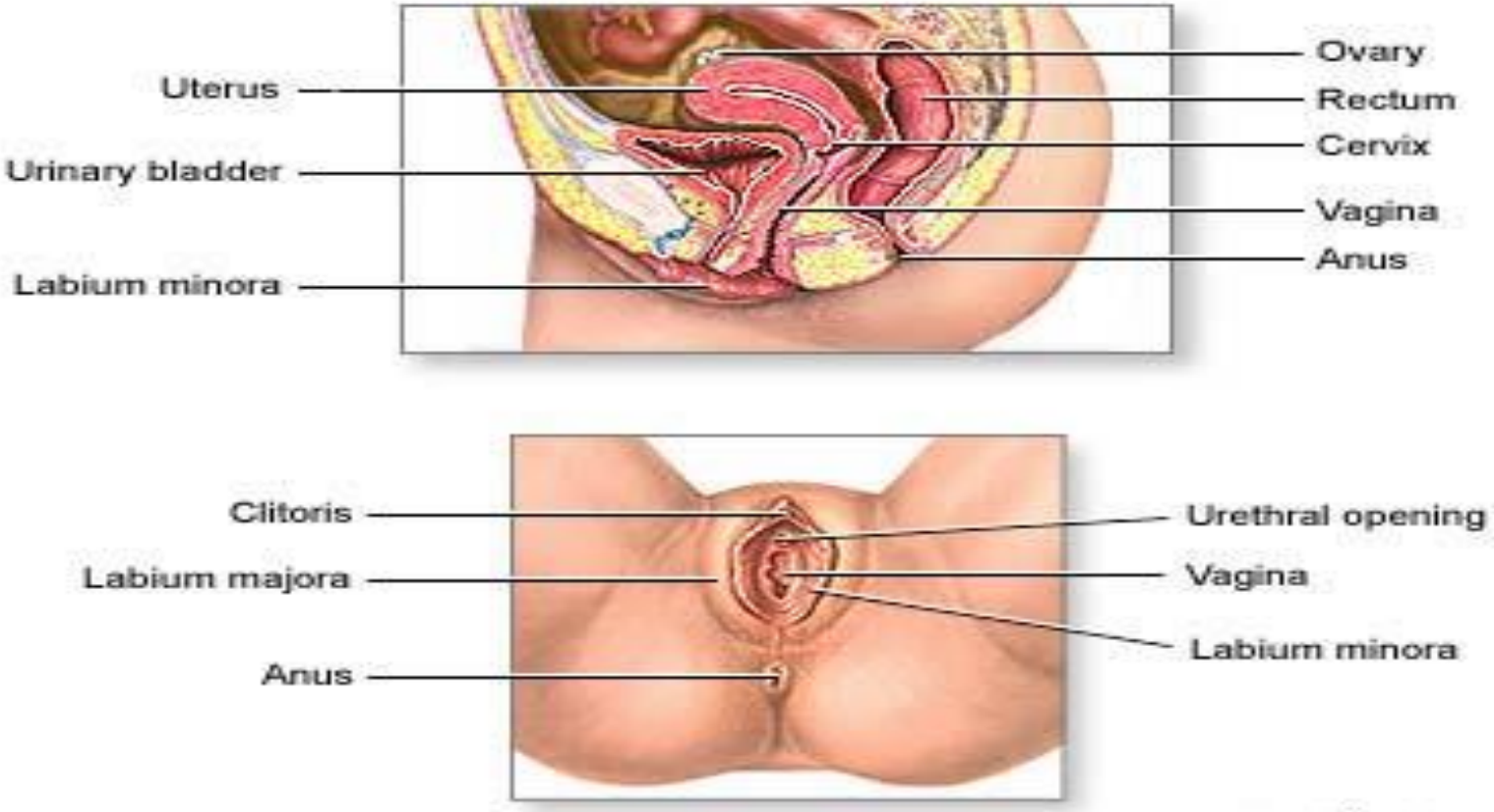
Vulvar Cancer



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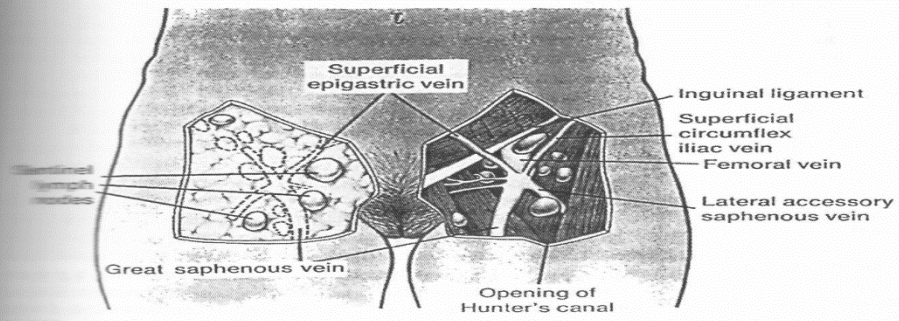

FIG. 20.1. The superficial inguinal lymph nodes comprise eight to ten subcutaneous nodes located between Camper's fascia and the cribriform fascia. These nodes are immediately adjacent to the saphenous vein and its branches. (Reprinted with permission from DiSaia PJ, Creasman WT, Rich WM. An alternative approach to early cancer of the vulva. *Am J Obstet Gynecol* 1979;133:825.)

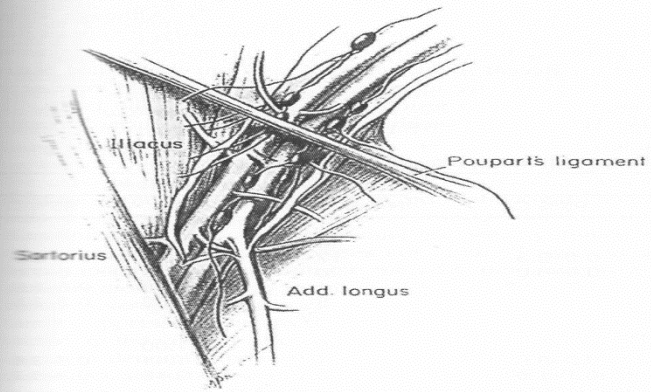

FIG. 20.2. Anatomic diagram of the right groin with the superficial structures removed demonstrates the saphenous vein and the boundaries of inguinal dissection—the sartorius muscle, inguinal ligament, and adductor longus muscle. (Reprinted with permission from Plentl AA, Friedman EA, eds. *Lymphatic system of the female genitalia*. Philadelphia: WB Saunders, 1971.)

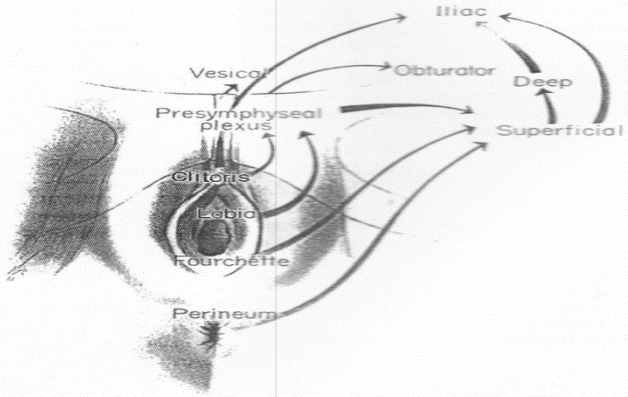

FIG. 20.3. The lymphatic drainage of the vulva initially flows to the superficial inguinal nodes then to the deep femoral and iliac groups. Drainage from midline structures may flow directly beneath the symphysis to the pelvic nodes. (Reprinted with permission from Plentl AA, Friedman EA, eds. *Lymphatic system of the female genitalia*. Philadelphia: WB Saunders, 1971.)

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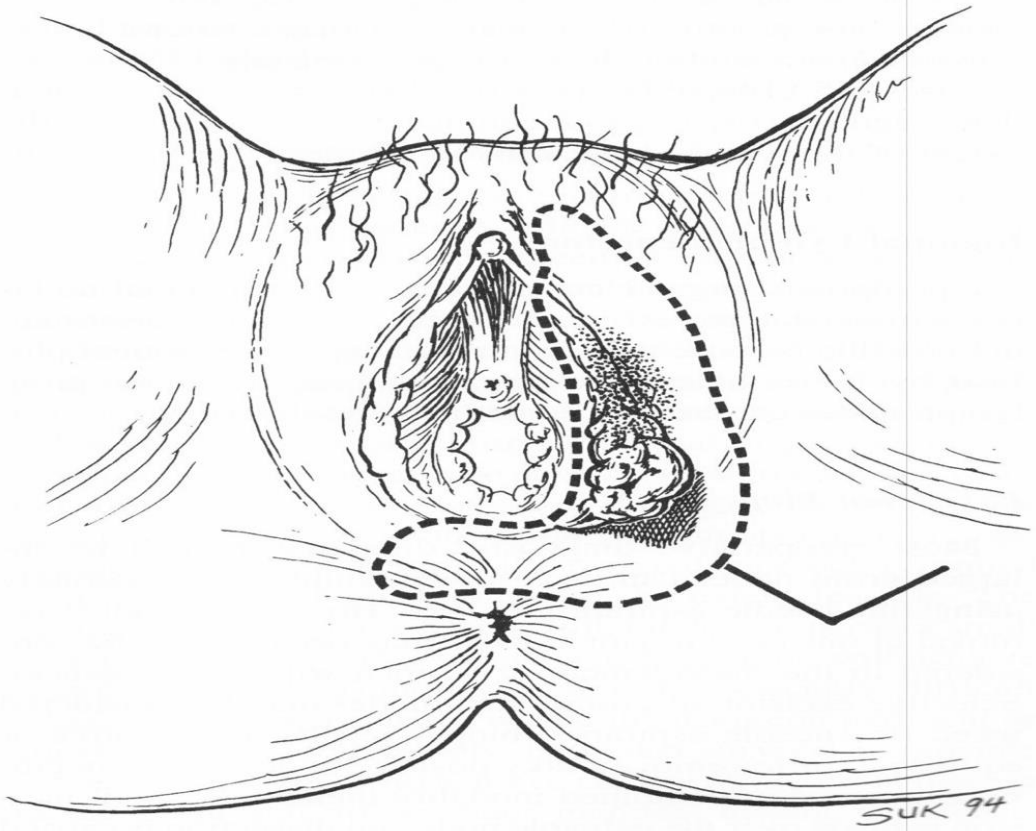

FIG. 20.20. Planned resection of a left labial squamous carcinoma and adjacent carcinoma *in situ* by radical wide excision. A 2-cm margin is outlined. Rhomboid flap repair using a V incision is anticipated. (Reprinted with permission from Burke TW, Morris M, Levenback C, et al. Closure of complex vulvar defects using local rhomboid flaps. *Obstet Gynecol* 1994;84:1044.)

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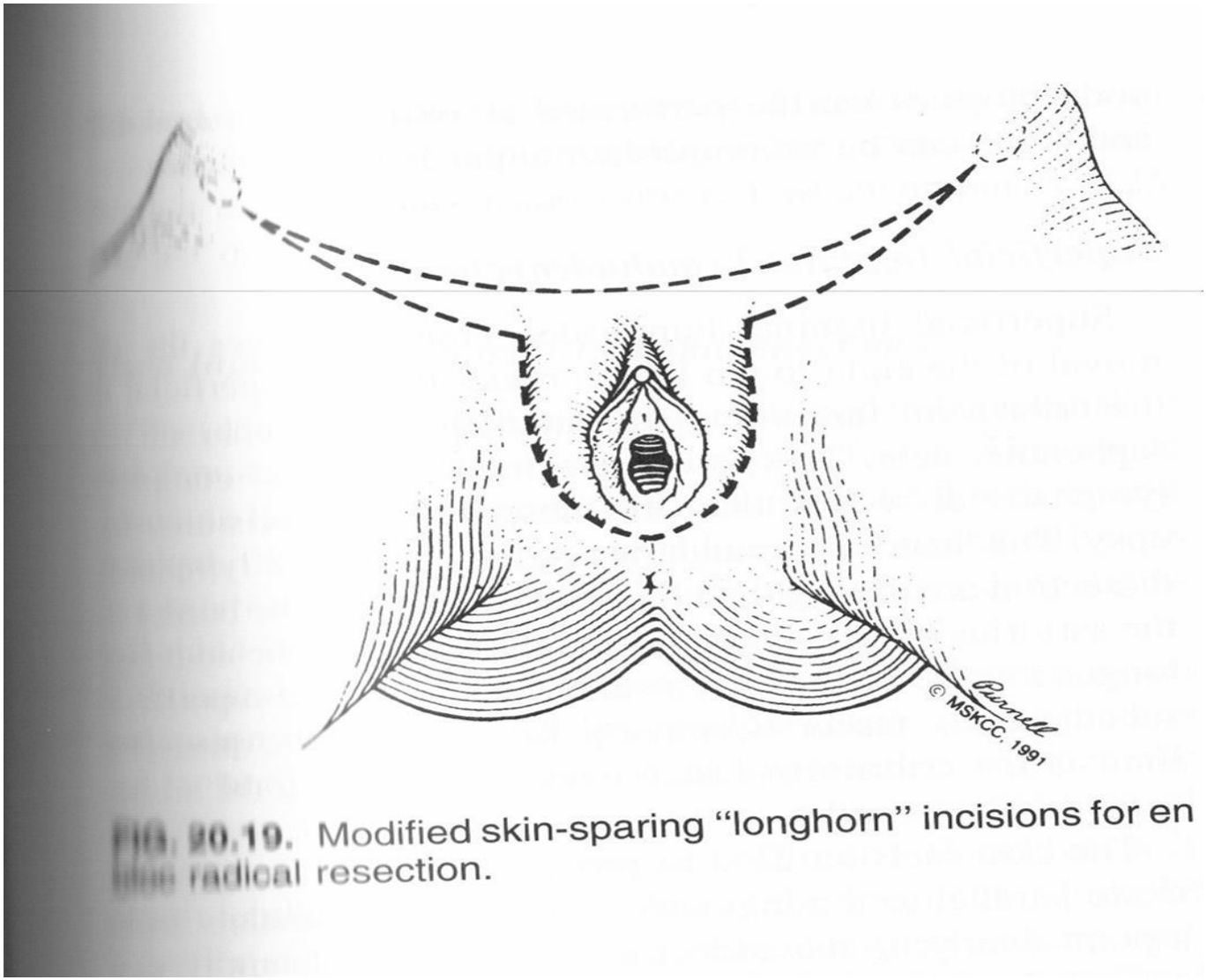

FIG. 20.19. Modified skin-sparing "longhorn" incisions for en
radical resection.

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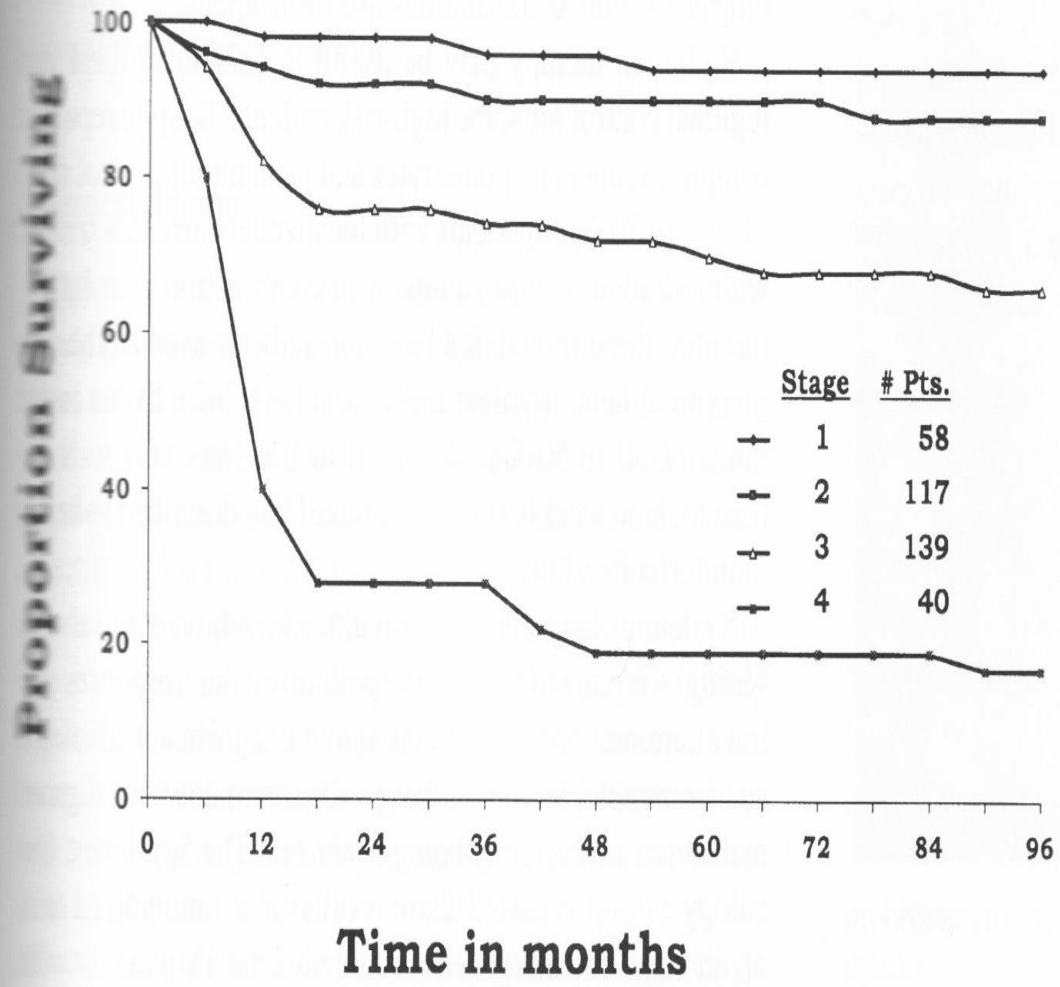

FIG. 20.26. Invasive squamous vulvar carcinoma. Survival by FIGO stage. (Patients treated at M.D. Anderson Cancer Center 1944–1990; data courtesy of F. N. Rutledge.)

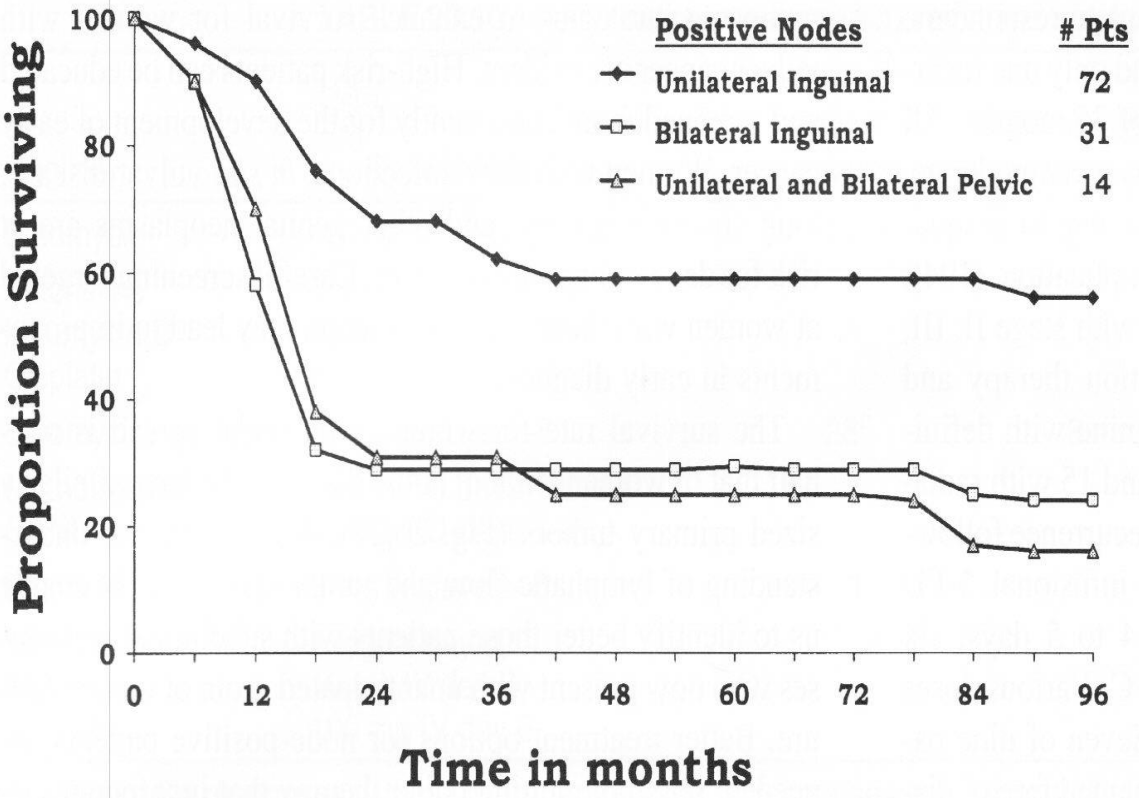

FIG. 20.27. Invasive squar carcinoma. Survival of patier itive nodes. (Data courtesy ledge.)

Ovarian Cancer

- Screening and the challenge with Ovarian Cancer
- Curative Probability vs Extending Survival and preserving Quality of Life
- Goal of Surgical Management- dependent on Stage
- Debulking to Minimal Disease
- The Role of Chemotherapy –pre vs post-surgical
- Role of Radiotherapy

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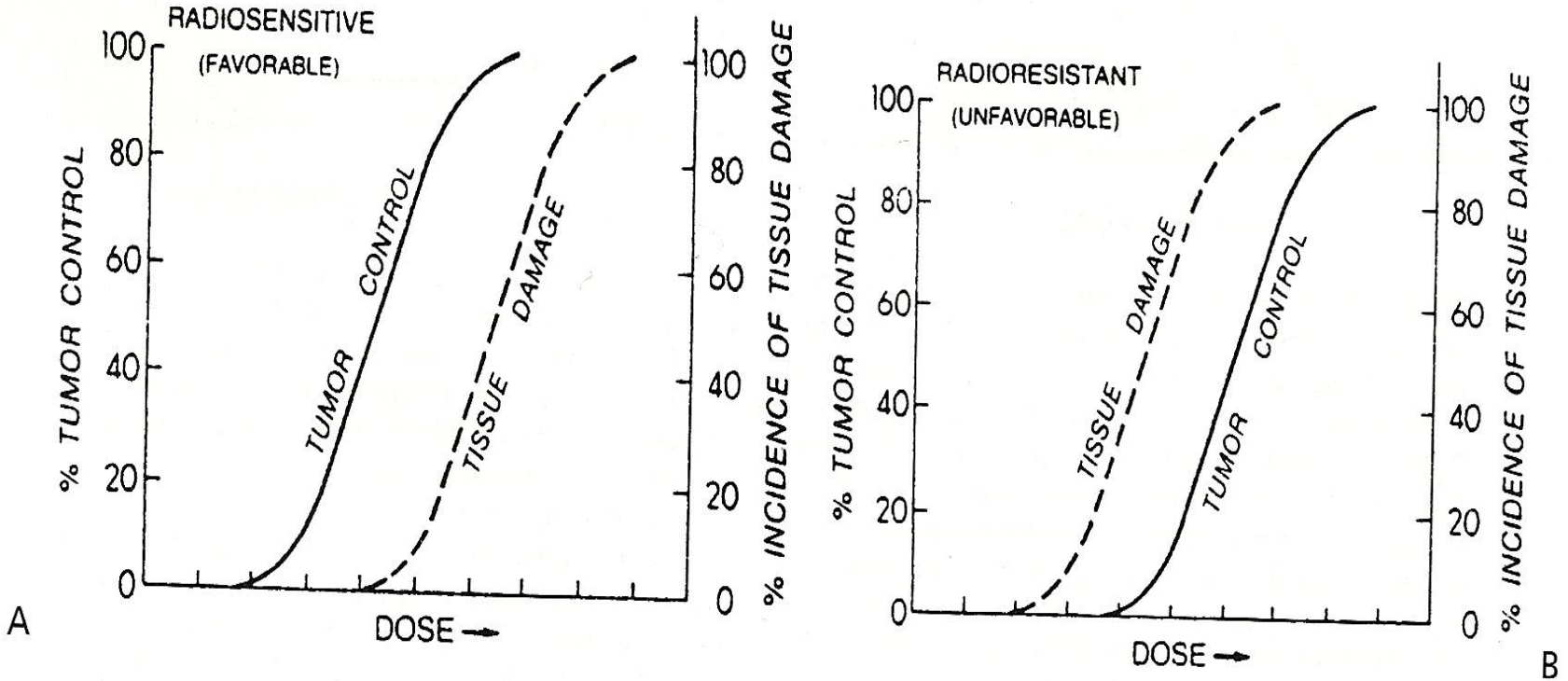

FIGURE 1.12. Different therapeutic ratios exist in different clinical circumstances depending on the radiosensitivity (dose-response curves) for the tumor versus critical normal tissue in the treatment field. **A.** Favorable. **B.** Unfavorable. (From Rubin P. *Clinical oncology: a multidisciplinary approach for physicians and students,* ed 7. Philadelphia: WB Saunders, 1993, with permission.)

Treatment Toxicities

- Specific to the treatment modalities
- Risk vs Benefit through the Spectrum of Curative vs Palliative Intent
- Full disclosure to patients
- Acute vs Chronic vs Latent Effects
- Presentation of Symptoms
- Therapeutic Interventions

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Supportive Care in Gyne Cancers

- Psycho-emotional well-being
- Optimizing physical well-being
- Sexual Health
- Palliative Care and the Spectrum of Medical/Surgical and Oncologic Options

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Question & Answer