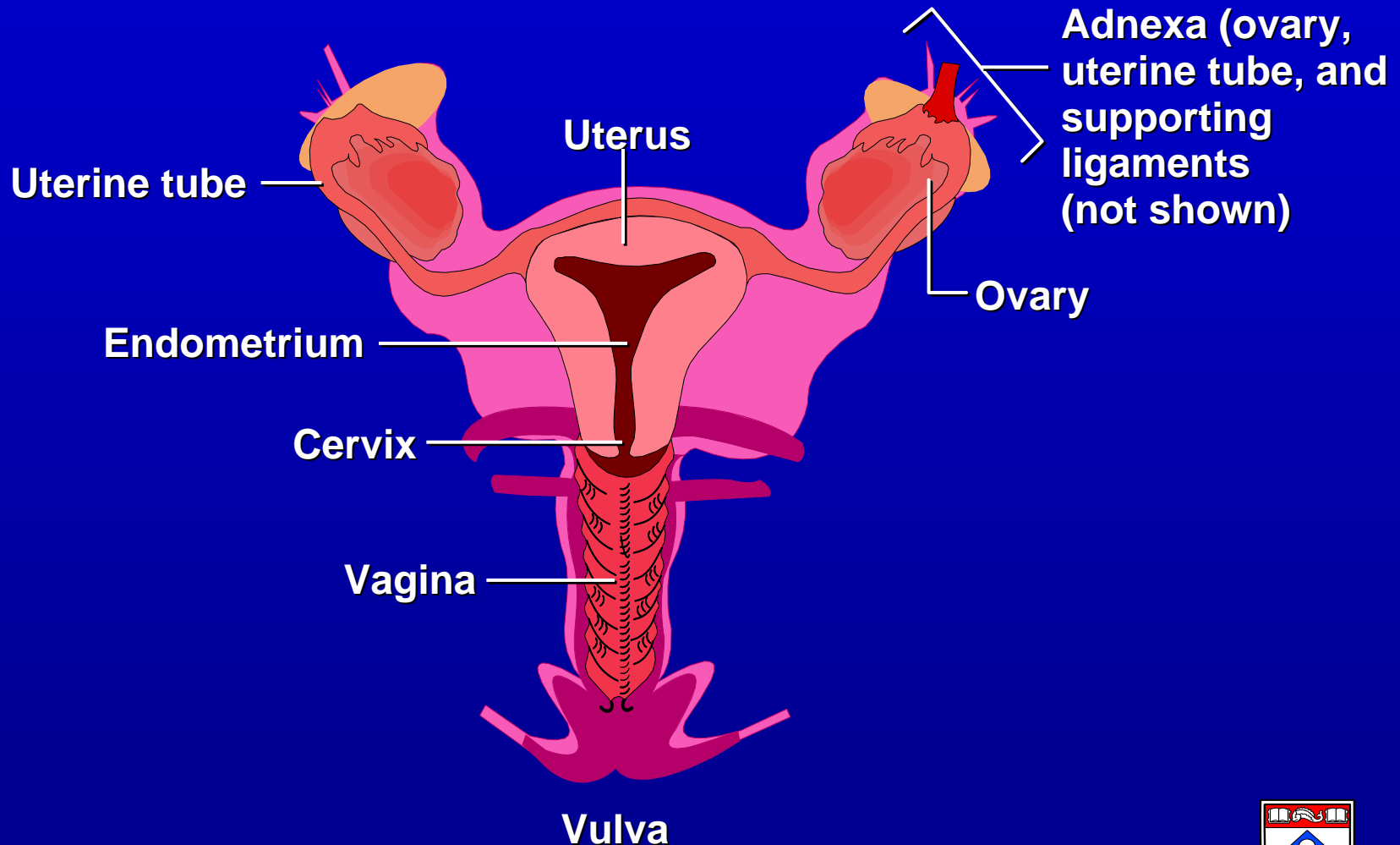


Gynecologic Cancers 2008

	Cases
Endometrium	40,100
Ovary	21,650
Cervix	11,070
Other	5,670
TOTAL	78,490

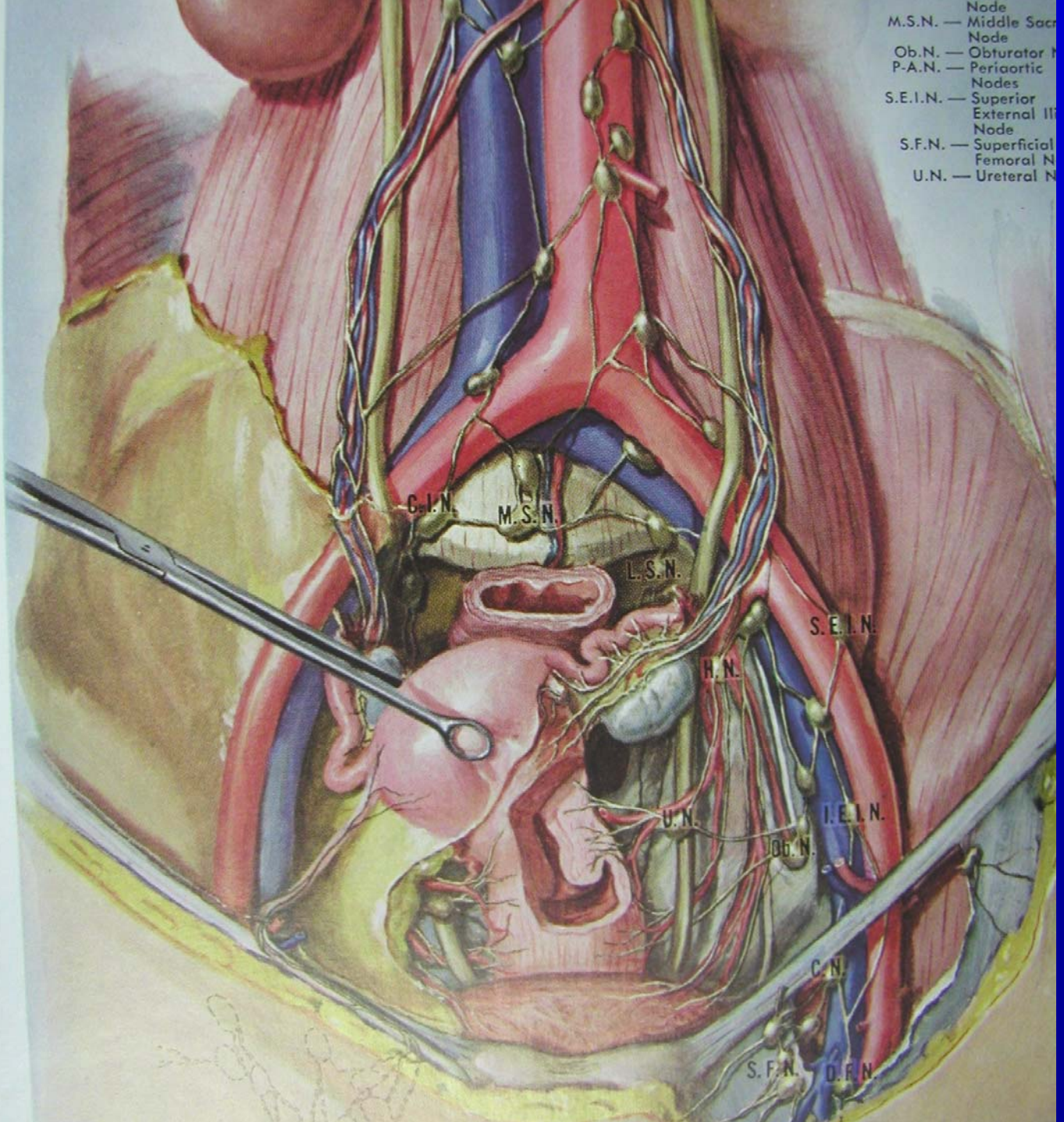


Gynecologic Anatomy



Gynecologic Anatomy





- M.S.N. — Middle Sacral Node
- Ob.N. — Obturator Node
- P-A.N. — Periaortic Nodes
- S.E.I.N. — Superior External Iliac Node
- S.F.N. — Superficial Femoral Node
- U.N. — Ureteral Node

C.I.N.

M.S.N.

L.S.N.

S.E.I.N.

H.N.

U.N.

Ob.N.

I.E.I.N.

C.N.

S.F.N.

D.F.N.

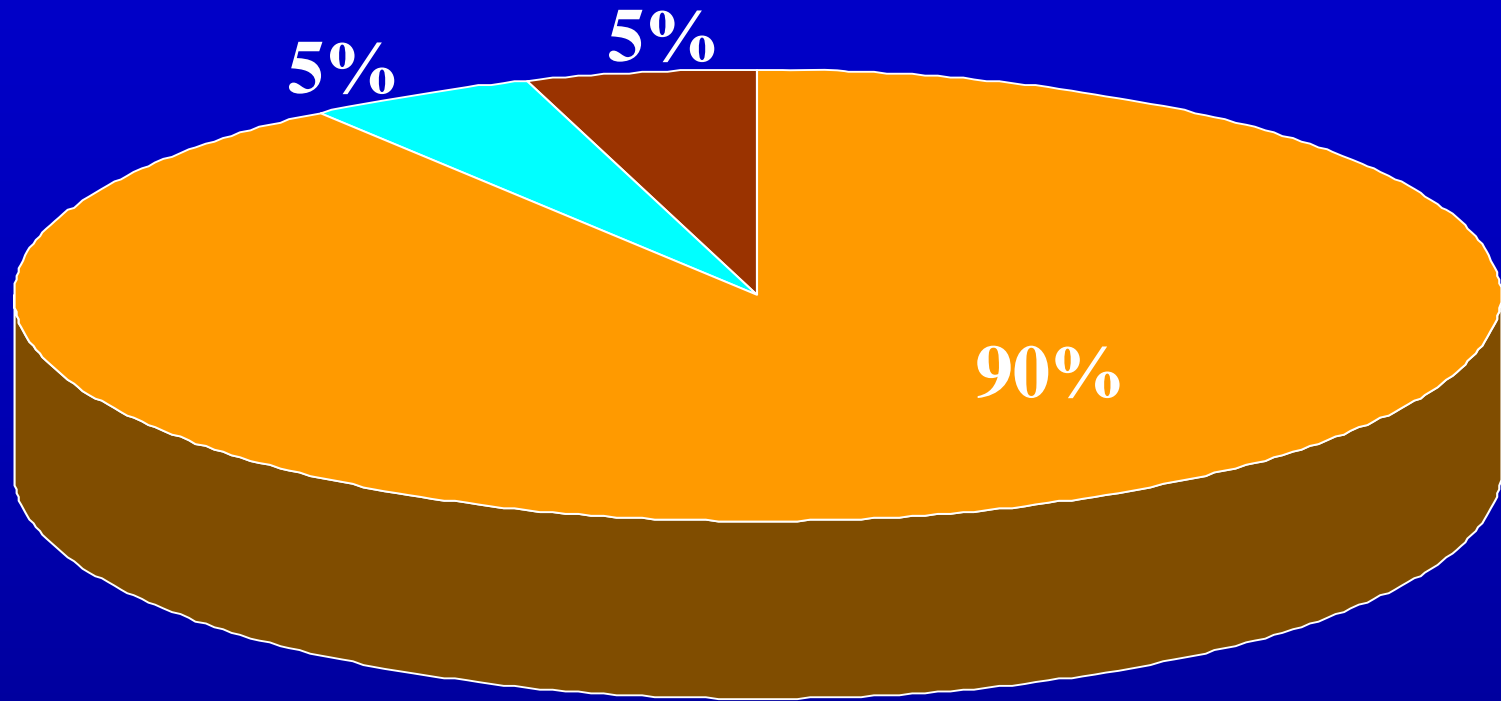


Ovarian Cancer

- Second most common gynecologic malignancy in the US
 - Responsible for 21,650 cases annually
- Most dangerous gynecologic malignancy
- 70% of patients present with advanced disease



Ovarian Cancer: Histologic Distribution

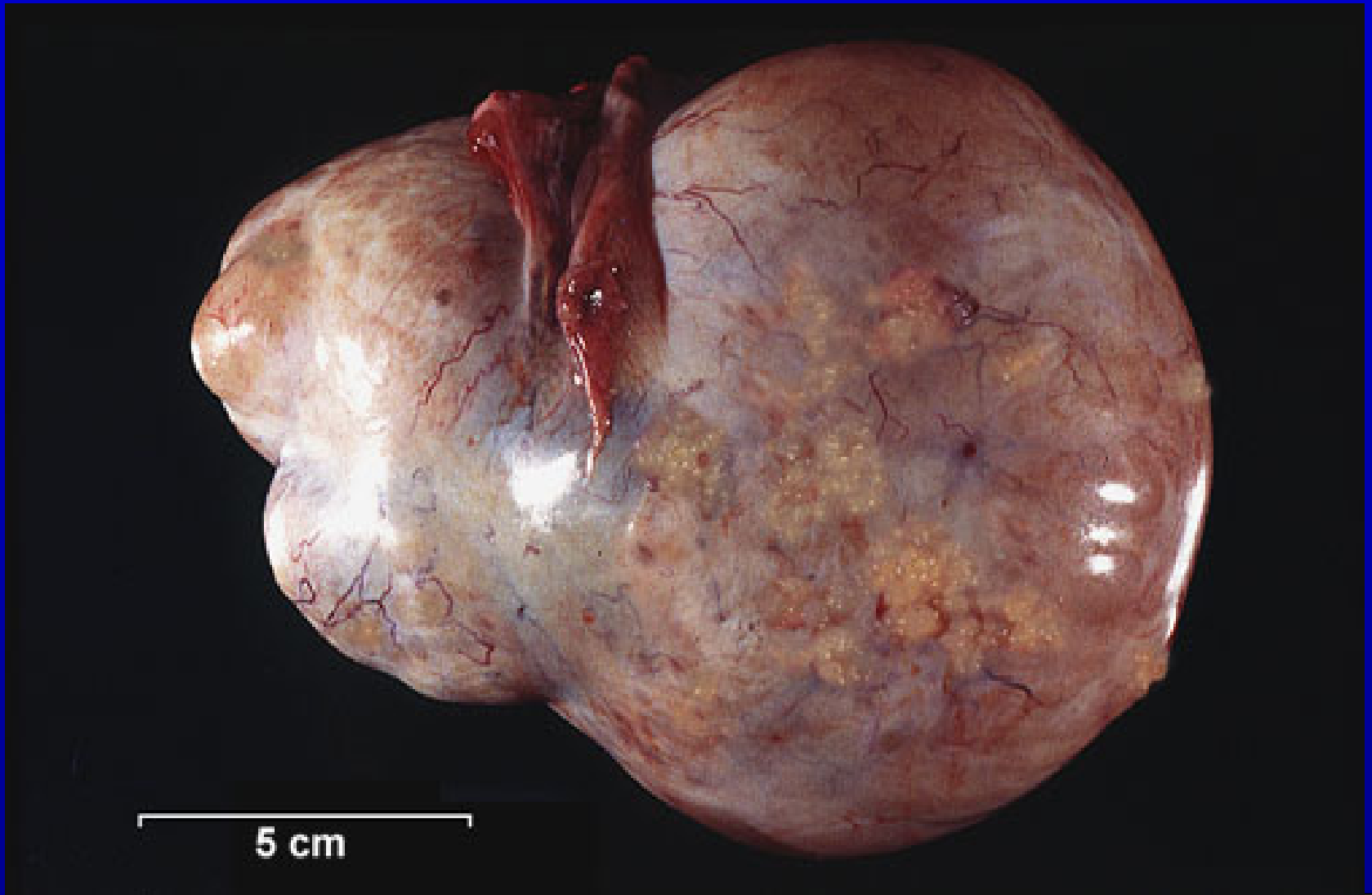


■ Epithelial

■ Germ Cell

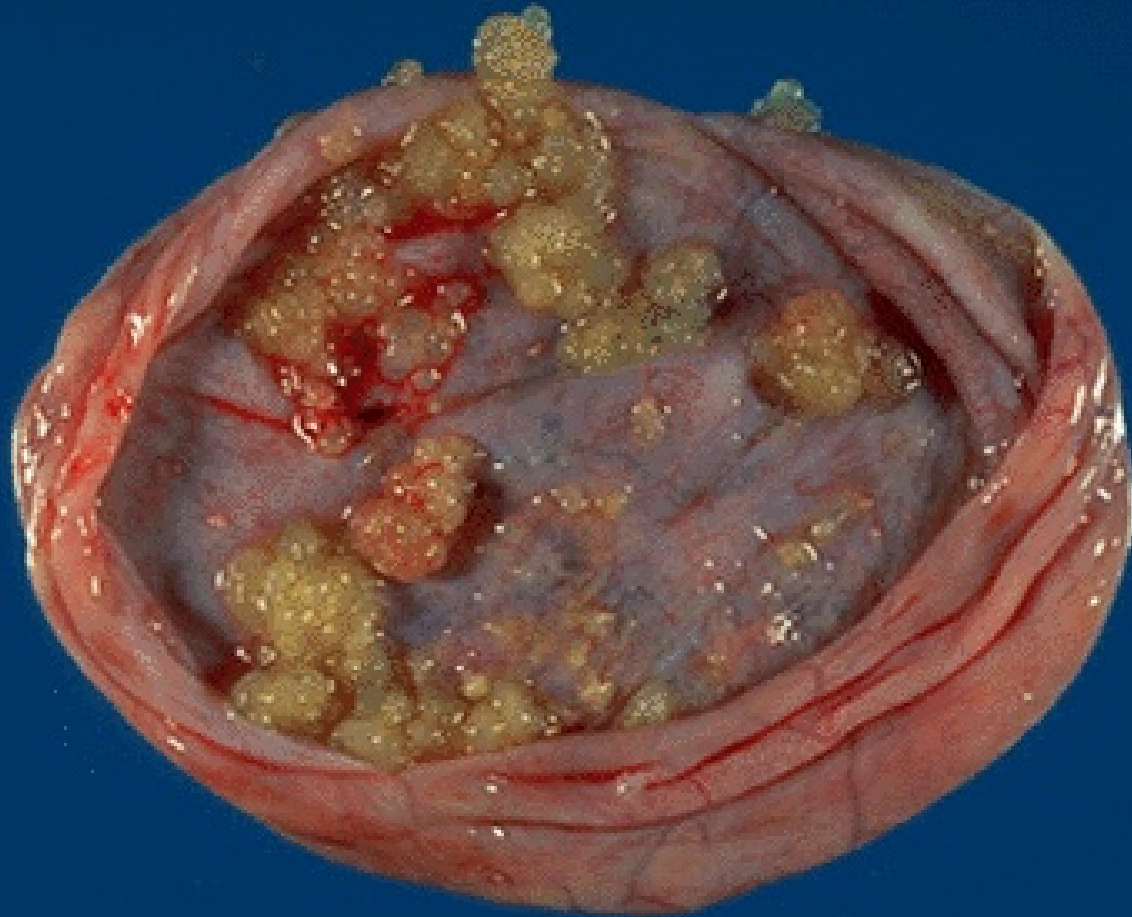
■ Stromal





Papillary Serous Ca

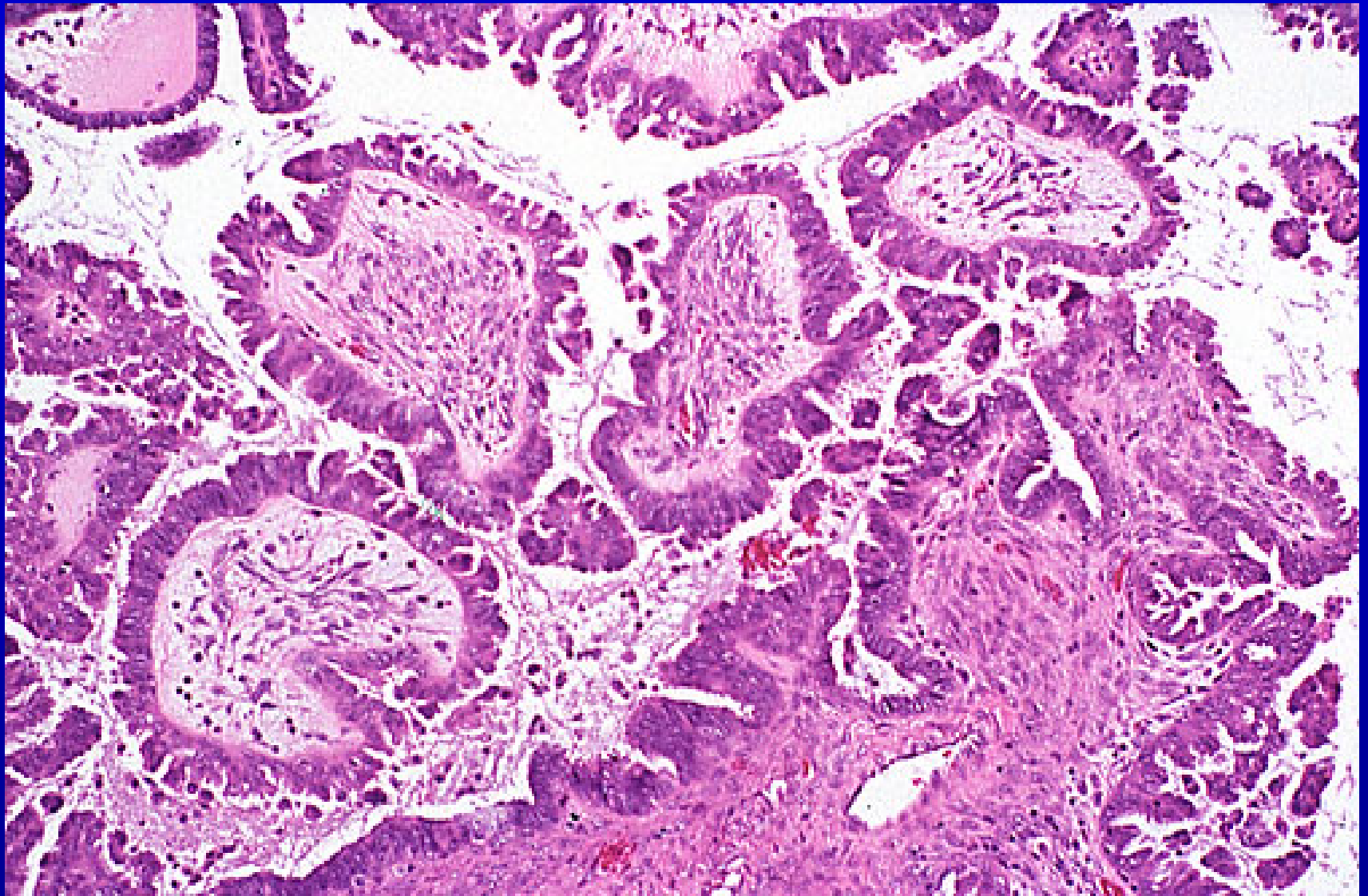




cm
SPECIMEN ¹S-²2436³-83⁴ DATE ⁵6-15⁶

Papillary Serous Ca





Papillary Serous Ca



Ovarian Cancer: Symptoms

- **95% of women DO report symptoms.**
- **Symptoms can be vague and not gynecologic:**
 - **Abdominal bloating, increased girth**
 - **Fatigue**
 - **Gastrointestinal disturbances**
 - **Urinary symptoms**
 - **Abdominal/pelvic pain**
 - **Menstrual irregularities**



Ovarian Cancer: CA125 Testing

- **CA125**
 - Is elevated in greater than 80% of advanced EOCs
 - Is elevated in 25-50% of Stage I cancers
 - Has poor specificity, especially in premenopausal women
 - NOT a screening test for the general population



PLCO Screening Trial: Risk Groups

	Risk Group (Number)		
	Average (22,687)	Moderate (2,572)	High (2,163)
Total Screening Exams	82,626	9,417	7,903
% Abnormal Screens	5.0	4.9	4.8
PPV % invasive ov ca	0.7	1.3	1.6



PLCO Screening Trial:

Results After Four Annual Screens (34,261 Women)

PPV	Year 1: 1.1%
	Year 2: 1.0%
	Year 3: 1.1%
	Year 4: 1.3%

Cancers Detected: 72% Stage III / IV

Surgeries per cancer detected: 20



Ovarian Cancer: Stage Distribution

Stage	Percent
I	24
II	6
III	55
IV	15

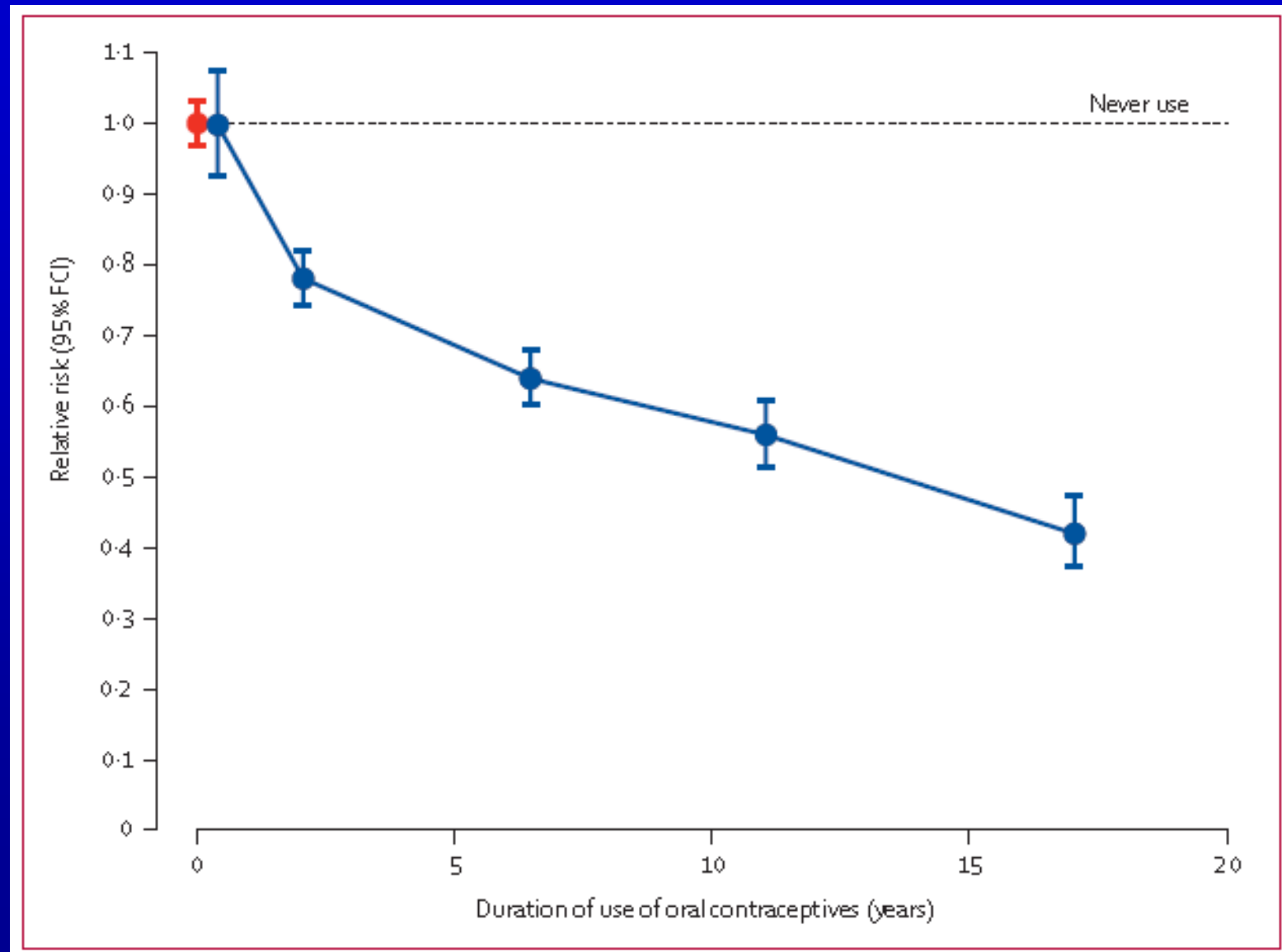


Ovarian Cancer: Risk Factors

Increase	Decrease
Age	OCPs
Family history	Pregnancy
Infertility/low parity	Tubal ligation
Personal cancer history	Breast-feeding



OCP's and Ovarian Cancer Risk



Ovarian Cancer: Sporadic v. Hereditary

Sporadic: 90%

Hereditary: 10%



Ovarian Cancer: Cumulative Lifetime Risk

General Population, US:

- Caucasian: 1.5%
- African American: 1.0%

Hereditary Predisposition:

- 16-40%



Ovarian Cancer: Hereditary Syndromes

- Account for only 10% of EOC
- Autosomal dominant inheritance
- Incomplete penetrance
- Associated with breast, colon, prostate and endometrial cancers
- *BRCA1*, *BRCA2*, mismatch repair genes



Prophylactic BSO and Risk of Cancer

Cancer	Number Subjects	Hazard Ratio
Ovarian or PP	551	0.04
Breast	241	0.47

Rebbeck et al NEJM 2002



Ovarian Cancer: Routes of Spread

- Exfoliation
- Direct Extension
- Lymphatic
- Hematogenous



Role of Surgery in Ovarian Cancer

Diagnostic

- **Establish Histopathologic Diagnosis**
- **Staging**
- **Reassessment (Second Look)**

Therapeutic

- **Primary, Secondary Debulking**
- **Symptom Relief**



Gynecologic Oncologist

Physician Training

- 4 years medical school
- 4 years residency in Ob/Gyn
- 3-4 years fellowship in Gyn Onc
- Certification by American Board of Obstetrics and Gynecology
- Approx 700 Gyn Oncologists in U.S.



Ovarian Cancer: Surgical Rx for Early Stage Disease

- **Optimal therapy: TAH BSO + staging (including pelvic and PALN)**
- **In younger women, reproductive conservation may be appropriate**
- **Approximately 30% will have histologic evidence of metastatic disease**

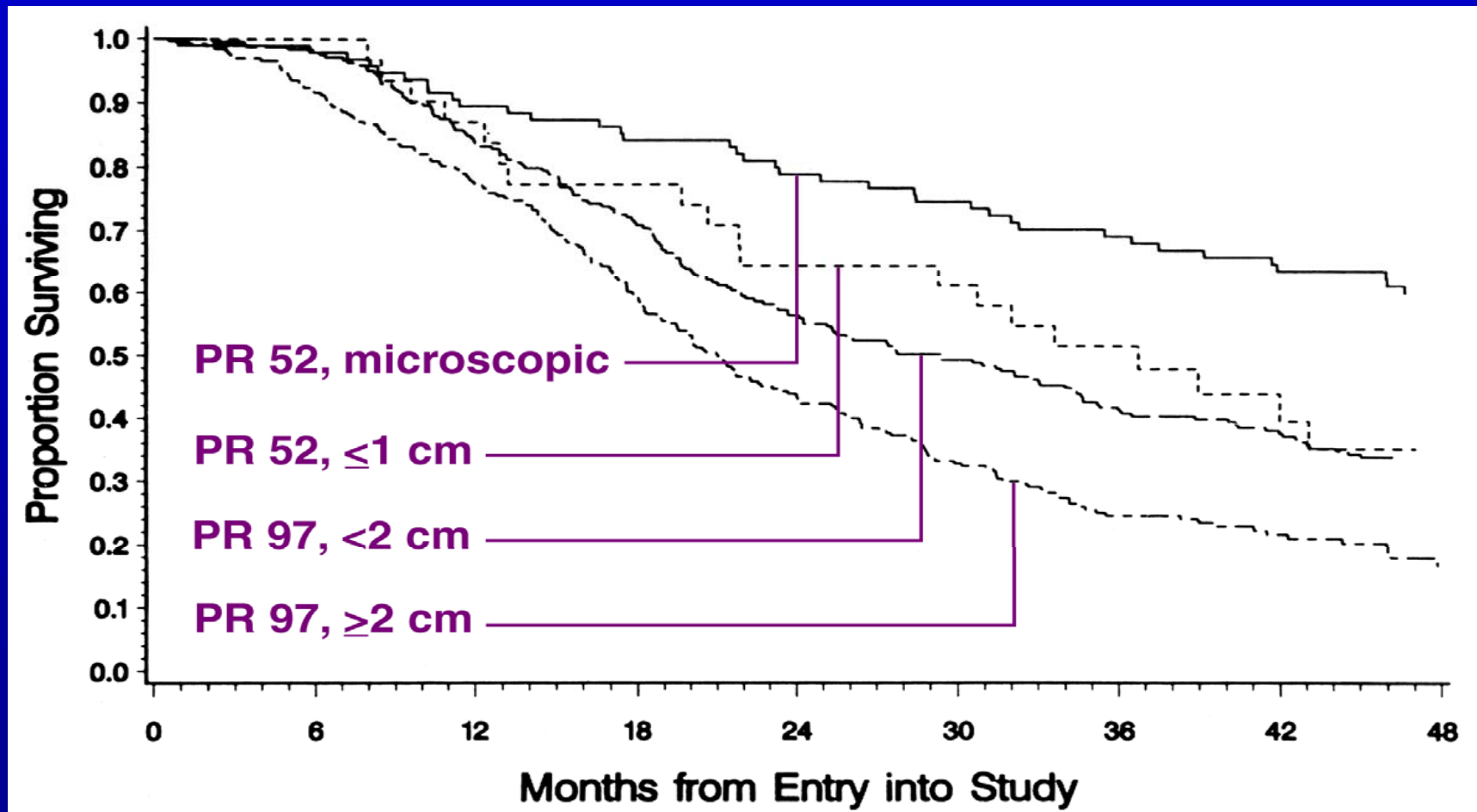


Ovarian Cancer: Surgical Treatment for Advanced Disease

- Significant survival advantage for women optimally cytoreduced
- Procedures may include:
 - *En bloc* resection of uterus, ovaries and pelvic tumor
 - Omentectomy
 - Bowel resection
 - Removal of diaphragmatic and peritoneal implants
 - Splenectomy, appendectomy



Ovarian Cancer: Survival by Residual Disease



Ovarian Cancer: Importance of Surgeon

- 1,866 women with ovarian cancer
- Significant advantage for those women managed by Gynecologic Oncologist
 - More likely to have optimal cytoreduction
 - Reduction in death by 25% ($p= 0.005$) compared to Ob/Gyn and General Surgeons



Ovarian Cancer: U.S. Patterns of Care

**785 women with
ovarian cancer
studied**

Stage	Appropriate Treatment
I	10%
II	15%
III	71%
IV	53%

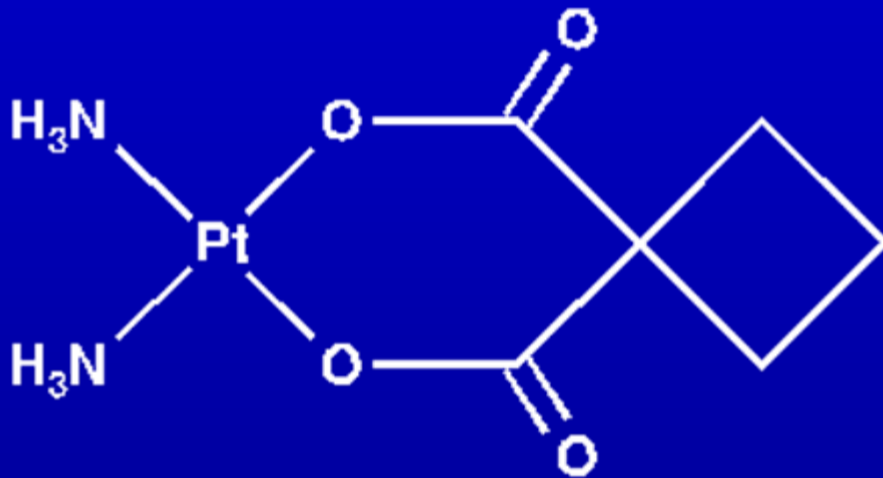


Ovarian Cancer: Chemotherapy

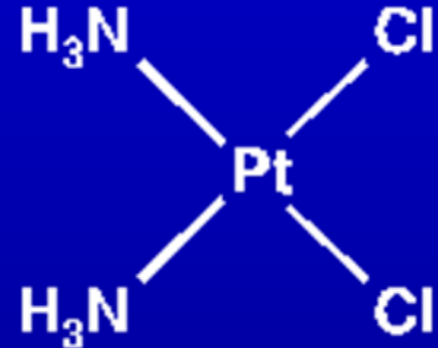
- All patients should receive a taxane and a platinum
- 80% response rate
- Many new agents being tested
- Encourage clinical trial participation



Platinum Compounds



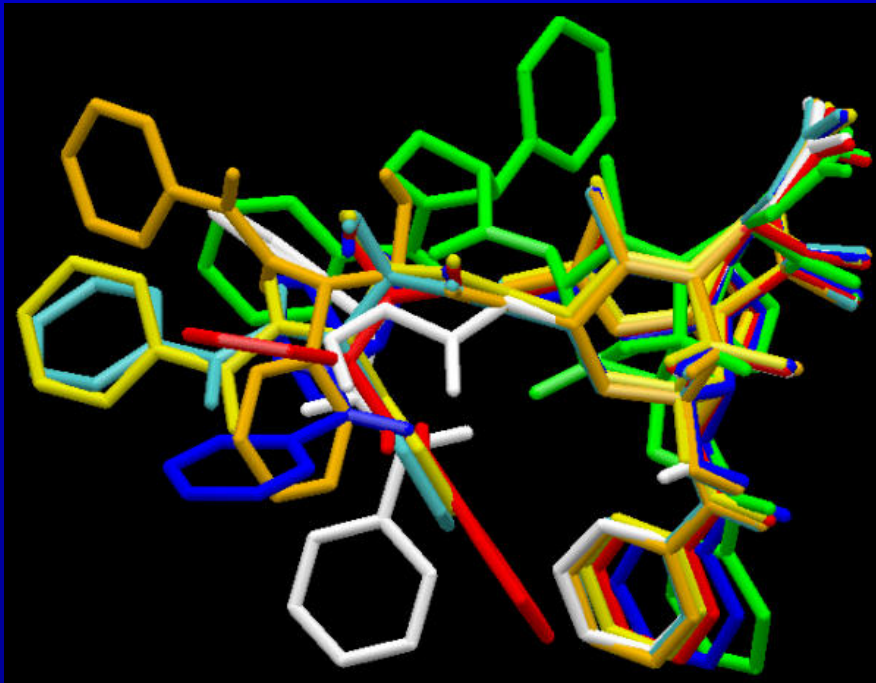
Carboplatin



Cisplatin



Taxol (Paclitaxel)



Ovarian Cancer: Follow-up Healthcare

- **RV pelvic exam and CA 125 q 2-3 mo x 3 years, q 4 mo for years 3-5**
- **CT scan for symptoms or rising CA 125**
- **General health maintenance (mammography, Pap smear, bone density, colon-rectal screening, cholesterol, etc.)**
- **Discuss HRT, diet, exercise**



Ovarian Cancer: Recurrence

- **75% of patients relapse**
- **Treatment options include:**
 - **Secondary cytoreduction**
 - **Retreatment with platinum/taxane**
 - **Second-line therapies, including chemo, radiation, immunologic, gene therapies**
 - **Encourage clinical trials**



Chemotherapy of Ovarian Cancer

- Cisplatin (PLATINOL[®])
- Carboplatin (PARAPLATIN[®])
- Paclitaxel (TAXOL[®])
- Docetaxel (TAXOTERE[®])
- Liposomal doxorubicin (DOXIL[®])
- Topotecan (HYCAMTIN[®])
- Gemcitabine (GEMZAR[®])
- Etoposide (VEPESID[®])
- Bevacizumab (AVASTIN[®])



Ovarian Cancer: Future Directions

- **Cost-effective screening**
- **Early detection**
- **Prevention**
- **Reversing chemoresistance**
- **Immunotherapy**
- **Gene therapy**



Ovarian Cancer: Temporal Trends in Survival

