Uterine Malignancy
## New Cancer Cases By Site

### 2010

<table>
<thead>
<tr>
<th>Site</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>28%</td>
</tr>
<tr>
<td>Lung</td>
<td>14%</td>
</tr>
<tr>
<td>Colo-Rectal</td>
<td>10%</td>
</tr>
<tr>
<td>Uterus</td>
<td>6%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>5%</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>4%</td>
</tr>
<tr>
<td>Ovary</td>
<td>3%</td>
</tr>
</tbody>
</table>
### Cancer Deaths By Site
#### 2010

<table>
<thead>
<tr>
<th>Site</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>26%</td>
</tr>
<tr>
<td>Breast</td>
<td>15%</td>
</tr>
<tr>
<td>Colo-Rectal</td>
<td>9%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>7%</td>
</tr>
<tr>
<td>Ovary</td>
<td>5%</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>4%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>3%</td>
</tr>
<tr>
<td>Uterus</td>
<td>3%</td>
</tr>
</tbody>
</table>
Uterine Cancer

Median age at Diagnosis
60 years
Uterine Malignancy
Age Distribution

783 Pt. 2000
Uterine Cancer

- 75% Postmenopausal
- 25% Perimenopausal/Premenopausal
- 5% Aged 40 or younger
# Endometrial Cancer

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>Type I</th>
<th>Type II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factors</td>
<td>Unopposed estrogen</td>
<td>Age</td>
</tr>
<tr>
<td>Race</td>
<td>White &gt; Black</td>
<td>White = Black</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Well differentiated</td>
<td>Poorly differentiated</td>
</tr>
<tr>
<td>Histology</td>
<td>Endometrioid</td>
<td>Non-endometrioid</td>
</tr>
<tr>
<td>Stage</td>
<td>I/II</td>
<td>III/IV</td>
</tr>
<tr>
<td>Prognosis</td>
<td>Favorable</td>
<td>Not favorable</td>
</tr>
<tr>
<td>Ploidy</td>
<td>Diploid</td>
<td>Aneuploid</td>
</tr>
</tbody>
</table>
Uterine Cancer
Risk Factors

- Obesity
- Nulliparity
- Late menopause
- Unopposed estrogen
- Hereditary 5% associated with HNPCC
  (10% for women younger than 50)
**Uterine Cancer**

**Etiology**

- **Estrogen Driven**
  - Obese, postmenopausal
- **Non-estrogen Driven**
  - Older, not obese
Post Menopausal Vaginal Bleeding
### Postmenopausal Bleeding

**Etiology**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exogenous estrogen</td>
<td>30</td>
</tr>
<tr>
<td>Endometritis/vaginitis</td>
<td>30</td>
</tr>
<tr>
<td>Endometrial Cancer</td>
<td>15</td>
</tr>
<tr>
<td>Polyps (endom./ cx.)</td>
<td>10</td>
</tr>
<tr>
<td>Endometrial hyperplasia</td>
<td>5</td>
</tr>
<tr>
<td>Misc. (sarcoma/ Cx ca./ trauma, caruncle)</td>
<td>10</td>
</tr>
</tbody>
</table>
Endometrial Cancer Screening

- No cost effective screening method.
- Prompt evaluation of symptomatic patients is essential.
Endometrial Cancer Precursors

Estrogen Dependent

Proliferative endometrium

Hyperpalsia

Hyperplasia with atypia (EIN)

Cancer
Uterine Malignancy
Diagnosis

- Endometrial biopsy
- Dilation and curettage
- Hysteroscopy
- Histologic type and grade
- Presence or absence of vaginal metastases
- Rule out primary endocervical carcinoma
Uterine Cancer
Histology

- Endometrioid
- Papillary serous
- Clear cell
- Undifferentiated
- Sarcoma
  - Mixed Mesodermal Sarcoma
  - Leiomyosarcoma
  - Stromal Sarcoma
Pre-treatment Evaluation

- May or may not alter staging of the disease
- Should impact decision making regarding therapy
F.I.G.O.
International Federation of Gynecology & Obstetrics

- Universally available
- Clinical vs. Surgical
- Once established, the stage is not changed
- Should have prognostic significance
- Aids in worldwide outcome reporting
- May assist in treatment decisions
F.I.G.O. Clinical Staging

- Physical exam
- Chest radiograph
- Intravenous pyelogram
- Barium enema
- Sigmoidoscopy/cystoscopy
<table>
<thead>
<tr>
<th>Diagnostic Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot alter staging</td>
</tr>
<tr>
<td>- Computed tomography</td>
</tr>
<tr>
<td>- Magnetic resonance imaging (MRI)</td>
</tr>
<tr>
<td>- PET scan</td>
</tr>
<tr>
<td>- Bone scan</td>
</tr>
</tbody>
</table>
Uterine Malignancy

Surgical Staging
<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>The carcinoma is confined to the corpus uteri</td>
</tr>
<tr>
<td>IA</td>
<td>No or &lt; 1/3 myometrial invasion</td>
</tr>
<tr>
<td>IB</td>
<td>Invasion ≥1/3 of the myometrium</td>
</tr>
<tr>
<td>II</td>
<td>Tumor involves the cervical stroma, but does not extend beyond the uterus</td>
</tr>
<tr>
<td>III</td>
<td>Local and/or regional spread of the tumor</td>
</tr>
<tr>
<td>IIIA</td>
<td>Tumor invades the serosa of the corpus uteri and/or adnexae</td>
</tr>
<tr>
<td>IIIB</td>
<td>Vaginal and/or parametrical involvement</td>
</tr>
<tr>
<td>IIIIC</td>
<td>Metastases to the pelvic and/or para-aortic lymph nodes</td>
</tr>
<tr>
<td>IIIIC1</td>
<td>Positive pelvic lymph nodes</td>
</tr>
<tr>
<td>IIIIC2</td>
<td>Positive para-aortic lymph nodes with or without positive pelvic lymph nodes</td>
</tr>
<tr>
<td>IV</td>
<td>Tumor invades the bladder and/or bowel mucosa</td>
</tr>
<tr>
<td>IVA</td>
<td>Tumor invades bladder and/or bowel mucosa</td>
</tr>
<tr>
<td>IVB</td>
<td>Distant metastases, including intra-abdominal metastases and/or inguinal lymph nodes</td>
</tr>
</tbody>
</table>

Note: All tumors are Graded 1, 2, or 3.
- Endocervical gland involvement is to be considered Stage I.
- Positive cytology has to be reported separately without changing stage.
FIGO 2009
Updated Endometrial Cancer Staging

- Myometrial invasion is consolidated into two groups IA and IB
- Stage IIA cervical mucosal involvement deleted
- Stage not altered by (+) cytology IIA
- Node involvement segregated into pelvic and aortic
Uterine Cancer
Prognostic Factors
- Histologic type
- Histologic grade
- Depth of myometrial invasion
- (+) peritoneal cytology
- Node metastases
- Extra-uterine disease
Uterine Malignancies
UKSM,W

7/82 - 7/2000
783 Patients
Uterine Malignancies
Histology

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Uterine Malignancies
Stage Distribution

- I: 432
- II: 79
- III: 116
- IV: 52
- Not Spec.: 104

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Uterine Malignancies
Extrauterine Disease

783 Pt, 2000
Uterine Cancer
Therapy
**Uterine Malignancy**
Pre-treatment Assessment

- Physical exam & pre-op evaluation
- CXR
- EKG
- CBC, comprehensive metabolic panel
- CT scan is of no benefit if surgery is planned
Uterine Malignancy
Treatment Options

- Surgical staging
- Hysterectomy, BSO, and peritoneal cytology, pelvic lymphadenectomy, aortic node sampling
- Abdominal, laparoscopic, robotic
- Postop treatment is based on pathologic risk factors
**Uterine Cancer**
Surgical Preparation

- Medical clearance
- Bowel prep (usually not)
- DVT prophylaxis
- Prophylactic antibiotics
Uterine Cancer
Pattern of Spread

- Direct extension
  - Myometrium
  - Parametrium
  - Peritoneal surface
- Lymphatic
- Vascular
Postoperative Treatment

- Observation
- Pelvic radiation
- Combination chemotherapy & radiation
- Systemic chemotherapy
- Hormone therapy
Uterine Cancer
Post-operative Pelvic Radiation Therapy

- Grade III lesions with any invasion
- Deeply invasive Grade II?
- Cervical stromal invasion
- Serosal involvement?
- Positive pelvic nodes
Uterine Cancer
Post-operative Systemic or Combination Therapy

- Positive peritoneal cytology?
- Gross peritoneal disease / omentum
- Adnexal involvement
- Distant metastases
Uterine Malignancies
Status Last Seen

- Alive, NED
- Alive w/Dis
- Dead w/Dis
- Dead wo/Dis
- Lost to FU

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Uterine Malignancy
Survival

87 77 42 15 50
I II III IV Not Spec.

783 Pt, 2000 % NED
Uterine Malignancy
Survival By Grade

I  II  III  Not Spec.
% NED  86  88  51  59

783 Pt, 2000

________________________________________________________________________
Uterine Cancer
Post-treatment Surveillance

- Pelvic exam and Pap q 3 mos. for 1 yr.
- Pelvic exam and Pap q 4 mos. for 1 yr.
- Exams q 6 mos. For final 3 years.
- 50% of vaginal/pelvic recurrences are curable with radiation therapy
- Expensive radiographic f/u is of little benefit
Uterine Sarcomas
Uterine Sarcomas

- Mesenchymal Tumors
  - Endometrial Stromal and related tumors
    - Endometrial stromal Sarcoma
  - Smooth muscle tumors
    - Leiomyosarcoma
- Mixed Epithelial & Mesenchymal Tumors
  - Carcinosarcoma
    - Malignant mixed tumors
  - Adenosarcoma