Epithelial Ovarian Cancer

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Note: If available, clinical trials should be considered as preferred treatment options for eligible patients (Gynecologic Oncology Clinical Trials). Other comorbidities are taken into consideration prior to treatment selection.

CLINICAL PRESENTATION

- Pelvic mass
- Ascites
- Abdominal distention
- Abdominal/pelvic pain
- Early satiety
- Urinary frequency

INITIAL EVALUATION

- Pelvic ultrasound
- CA 125
- Chest x-ray
- CT chest, abdomen, and pelvis with IV/PO contrast if concern for malignancy
- Other tumor markers if indicated
- Colonoscopy if indicated
- Family history with referral to genetic counseling and testing as indicated
- Lifestyle risk assessment

Diagnosis by previous surgery or biopsy

- Chest x-ray
- CA 125
- CT chest, abdomen and pelvis with IV/PO contrast
- Genetic counseling and testing for high grade non-mucinous epithelial ovarian cancer, including primary peritoneal cancer and fallopian tube cancer

PRIMARY TREATMENT

- Hysterectomy/BSO with comprehensive staging or
- If Stage I, consider fertility sparing surgery (See Fertility Sparing Treatment algorithm) and Oncofertility consult (See Fertility Preservation algorithm)
- If Stage II - IV, cytoreductive surgery

END OF PRIMARY TREATMENT EVALUATION

- Neoadjuvant chemotherapy for 3 to 6 cycles
- Consider clinical trial
- Interval cytoreductive surgery
- Response?

BSO = bilateral salpingo-oophorectomy

1. Consider MD Anderson approved biomarkers
2. See Genetic Counseling algorithm to assess criteria for referral
3. Consider both germline and somatic mutation testing (including HRD testing if BRCA germline or somatic mutation are negative). Consider testing at initial diagnosis or at the time of surgery.
4. See Physical Activity, Nutrition, and Tobacco Cessation algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice.
5. If Stage I and patient desires fertility preservation, consider unilateral salpingo-oophorectomy (USO) and staging
6. See Appendix B: Chemotherapy Regimens
7. See Reproductive Endocrinologists
8. Refer to Reproductive Endocrinologists

See Appendix A: The International Federation of Gynecology and Obstetrics (FIGO) Staging
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See Gynecologic Oncology Clinical Trials

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Department of Clinical Effectiveness
Epithelial Ovarian Cancer

STAGE

Stage I, IB

- Low risk\(^1\)
  
  See Page 4 for Surveillance

- High risk\(^2\)

Stage IC, II

- Residual tumor \(\leq 1\) cm
  
  Taxane and platinum doublet\(^3\)
  for at least 6 cycles

- Residual tumor \(\geq 1\) cm - Stage IVA or IVB
  
  Taxane and platinum doublet\(^3\)
  with or without bevacizumab
  for at least 6 cycles

- Residual tumor \(\geq 1\) cm - Stage IVA or IVB
  
  Reassessment
  
  - CA-125 or other tumor markers (e.g., CEA, CA19-9) if initially elevated
  
  - CT chest, abdomen, and pelvis with IV/PO contrast

- Stage III, or IV

  See maintenance on Page 3

  and/or relapsed/progression treatment on Page 5

\(^1\) Low risk – Grade 1 endometrioid or low grade serous histology

\(^2\) High risk – Grade 2 or 3 endometrioid, high grade serous, clear cell, or carcinosarcoma

\(^3\) See Appendix B: Chemotherapy Regimens

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MAINTENANCE TREATMENT

Stage III and IV Complete or Partial Remission

Bevacizumab used during primary therapy?

Yes

BRCA 1/2 wild type and
HRD negative or unknown

Germline or somatic BRCA 1/2
or HRD positive

Bevacizumab

● Bevacizumab plus olaparib or
● PARP-inhibitor alone (olaparib, niraparib)

No

BRCA 1/2 wild type and
HRD negative or unknown

Germline or somatic BRCA 1/2
or HRD positive

● Surveillance or
● Consider clinical trial or
Consider PARP-inhibitor (niraparib)

PARP-inhibitor alone (olaparib, niraparib)
Surveillance to include the following:

- Review of symptoms (pain, persistent headache, shortness of breath, bleeding, discharge, chronic cough, and change in bowel or bladder habits)
- Pelvic exam during clinic visits
- CA-125 or other tumor markers if initially elevated
- Pap test is not recommended
- Routine diagnostic imaging is not recommended

Recommended surveillance schedule:

- Year 1: Every 3 months
- Year 2: Every 3-4 months
- Year 3-5: Every 6 months

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Epithelial Ovarian Cancer

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### RELAPSED/PROGRESSION TREATMENT

- Progression or no response on primary chemotherapy or Relapse < 6 months after stopping platinum-based chemotherapy (taxane and platinum resistant)
- Relapse ≥ 6 months after stopping platinum-based chemotherapy

#### Serially rising CA 125
- Consider supportive care for selected patients
- Salvage chemotherapy/biotherapy with or without bevacizumab
- Hormonal therapy
- NGS, MSI by PCR, and HLA testing for primary tumor
- Clinical trial

#### Clinical or radiologic relapse
- Delay until clinical or radiologic relapse or treat as clinically indicated
- BRCA testing, if not already performed
- HRD tumor testing if germline BRCA testing negative
- NGS, MSI by PCR, and HLA testing for primary tumor
- Clinical trial
- Consider supportive care for selected patients

#### Platinum-based doublet with or without bevacizumab
- BRCA testing, if not already performed
- HRD tumor testing if germline BRCA testing negative
- NGS, MSI by PCR, and HLA testing for primary tumor
- Clinical trial
- Consider supportive care for selected patients

---

HRD = homologous recombination deficiency  
MSI = microsatellite instability  
HLA = human leukocyte antigen

1 See Appendix B: Chemotherapy Regimens  
2 See Gynecologic Oncology Clinical Trials

Note: If available, clinical trials should be considered as preferred treatment options for eligible patients (Gynecologic Oncology Clinical Trials). Other comorbidities are taken into consideration prior to treatment selection.

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### APPENDIX A: The International Federation of Gynecology and Obstetrics (FIGO) Staging

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
</table>
| I     | Tumor confined to ovaries or fallopian tube(s)  
       | IA: Tumor limited to one ovary (capsule intact) or fallopian tube; no tumor on ovarian or fallopian tube surface; no malignant cells in the ascites or peritoneal washings  
       | IB: Tumor limited to both ovaries (capsules intact) or fallopian tubes; no tumor on ovarian or fallopian tube surface; no malignant cells in the ascites or peritoneal washings  
       | IC: Tumor limited to one or both ovaries or fallopian tubes, with any of the following:  
           | IC1: Surgical spill  
           | IC2: Capsule ruptured before surgery or tumor on ovarian fallopian tube surface  
           | IC3: Malignant cells in ascites or peritoneal washings |
| II    | Tumor involves one or both ovaries or fallopian tubes with pelvic extension (below pelvic brim) or primary peritoneal cancer  
       | IIA: Extension and/or implants on uterus and/or fallopian tubes and/or ovaries  
       | IIB: Extension to other pelvic intraperitoneal tissues |
| III   | Tumor involves one or both ovaries or fallopian tubes, or primary peritoneal cancer, with cytologically or histologically confirmed spread to the peritoneum outside the pelvis and/or metastasis to the retroperitoneal lymph nodes  
       | IIIA1: Positive retroperitoneal lymph nodes only (cytologically or histologically proven)  
           | (i) Metastasis up to 10 mm in greatest dimension  
           | (ii) Metastasis more than 10 mm in greatest dimension  
       | IIIA2: Microscopic extrapelvic (above the pelvic brim) peritoneal involvement with or without positive retroperitoneal lymph nodes  
       | IIIB: Macroscopic peritoneal metastasis beyond the pelvis up to 2 cm in greatest dimension, with or without metastasis to the retroperitoneal lymph nodes  
       | IIIC: Macroscopic peritoneal metastasis beyond the pelvis more than 2 cm in greatest dimension, with or without metastasis to the retroperitoneal lymph nodes  
       | (includes extension of tumor to capsule of liver and spleen without parenchymal involvement of either organ) |
| IV    | Distant metastasis excluding peritoneal metastases  
       | IVA: Pleural effusion with positive cytology  
       | IVB: Parenchymal metastases and metastases to extra-abdominal organs (including inguinal lymph nodes and lymph nodes outside of the abdominal cavity) |
## APPENDIX B: Chemotherapy Regimens

### Epithelial Ovarian Cancer

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### Platinum Sensitive

<table>
<thead>
<tr>
<th>Recurrence Therapy</th>
<th>Maintenance Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paclitaxel 135 mg/m² IV over 3 hours on Day 1 with cisplatin 75-100 mg/m² IP on Day 2 and paclitaxel 60 mg/m² IP on Day 8 every 3 weeks for 6 cycles</td>
<td>Bevacizumab 15 mg/kg IV over 30 minutes every 3 weeks for at least 1 year or until progression</td>
</tr>
<tr>
<td>Paclitaxel 175 mg/m² IV over 3 hours with carboplatin AUC 5-6 IV over 1 hour every 3 weeks for 6 cycles</td>
<td>Approved PARP inhibitor therapy until progression (BRCA positive or HRD positive)</td>
</tr>
<tr>
<td>Docetaxel 75 mg/m² IV over 1 hour with carboplatin AUC 5 IV over 1 hour every 3 weeks for 6 cycles</td>
<td>Aromatase inhibitors (low grade serous ovarian cancer)</td>
</tr>
<tr>
<td>Paclitaxel 80 mg/m² IV over 1 hour on Days 1, 8 and 15 with carboplatin AUC 5-6 IV over 1 hour on Day 1 every 3 weeks for 6 cycles</td>
<td></td>
</tr>
<tr>
<td>Paclitaxel 175 mg/m² IV over 3 hours with carboplatin AUC 5-6 IV over 1 hour every 3 weeks for 6 cycles. Starting Day 1 of cycle 2 give bevacizumab 15 mg/kg IV over 30 minutes every 3 weeks</td>
<td></td>
</tr>
<tr>
<td>Option for patients with mucinous ovarian cancer: oxaliplatin 130 mg/m² IV over 2 hours on Day 1 and capecitabine 850 mg/m² PO twice daily on Days 1 through 14 followed by 7 day rest period every 3 weeks</td>
<td></td>
</tr>
</tbody>
</table>

### Platinum Resistant

<table>
<thead>
<tr>
<th>Recurrence Therapy</th>
<th>Maintenance Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Docetaxel</td>
<td>Oral cyclophosphamide</td>
</tr>
<tr>
<td>Oral etoposide</td>
<td>Bevacizumab single agent</td>
</tr>
<tr>
<td>Gemcitabine</td>
<td>Topotecan</td>
</tr>
<tr>
<td>Liposomal doxorubicin</td>
<td>Vinorelbine</td>
</tr>
<tr>
<td>weekly paclitaxel</td>
<td>Hormonal therapy</td>
</tr>
<tr>
<td>Bi-weekly cisplatin and gemcitabine</td>
<td></td>
</tr>
<tr>
<td>Approved PARP inhibitor therapy (BRCA positive or HRD positive) or aromatase inhibitor (low grade serous ovarian cancer)</td>
<td></td>
</tr>
</tbody>
</table>

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1 Excludes PARP inhibitors

2 **All systemic chemotherapy agents** can be given alone or with bevacizumab

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**Epithelial Ovarian Cancer**

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**SUGGESTED READINGS**


Continued on Next Page
Epithelial Ovarian Cancer

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SUGGESTED READINGS - continued


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DEVELOPMENT CREDITS

This practice algorithm is based on majority expert opinion of the Gynecologic Oncology and Reproductive Medicine Center Faculty at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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2 Clinical Effectiveness Development Team