



# Leading Sites of New Cancer Cases and Death

## 2010 estimates

1. Bladder Cancer
2. Breast Cancer
3. Colon and Rectal Cancer
4. Endometrial Cancer
5. Kidney (Renal Cell) Cancer
6. Leukemia
7. Lung Cancer
8. Melanoma
9. Non-Hodgkin Lymphoma
10. Pancreatic Cancer
11. Prostate
12. Thyroid Cancer

References: <http://www.cancer.gov/cancertopics/types/commoncancers>  
<http://www.cdc.gov/Features/dsMenTop10Cancers/>

### Treatment Guideline for Prostate Cancer:

1. Careful observation without further immediate treatment in selected patients.
2. Some practitioner will opt for interstitial prostate brachytherapy. Some variations in the treatment can include different isotopes types in combination with hormonal therapy and/or external beam radiotherapy. Prior to initiating therapy:
  - a. Transrectal ultrasound-based volume study is performed to assess prostate volume and to determine the number of needles and corresponding radioactive seeds, isotope, and the isotope strength necessary for the procedure.
  - b. External beam radiotherapy and radical prostatectomy

### Treatment of the Intermediate-Risk Patient

1. Active surveillance
2. Interstitial prostate brachytherapy
3. External radiotherapy
4. Radical Prostatectomy

Steps therapy depending on assessment:

1. Maintenance of serum levels of testosterone
2. Secondary hormone therapy
3. Antiandrogen withdrawal
4. Ketoconazole
5. Steroids
6. DES or other estrogen
7. Cisplatin/etoposide or carboplatin/etoposide or docetaxel-based regimen
- 8.
9. Docetaxel
10. Mitoxantrone
11. abiraterone acetate

<http://www.auanet.org/content/guidelines-and-quality-care/clinical-guidelines/main-reports/proscan07/content.pdf>

<http://www.cancer.gov/cancertopics/pdq/treatment/prostate/HealthProfessional/page5>

## **Breast Cancer**

Treatment Guidelines:

1. Breast-conserving surgery
2. Lymph node dissection and radiation therapy
3. Modified radical mastectomy with or without breast reconstruction surgery
4. Adjuvant therapy:
  - a. Radiation therapy
  - b. Systemic chemotherapy with or without hormone therapy
  - c. Clinical trial of trastuzumab (Herceptin) combined with systemic chemotherapy
  - d. Tyrosine kinase inhibitor therapy with lapatinib combined with capecitabine
  - e. Clinical trial of bisphosphonates combined with chemotherapy and/or hormone therapy
  - f. Clinical trials of new combinations of trastuzumab (Herceptin) with anticancer drugs
  - g. Clinical trial of new combinations of lapatinib with anticancer drugs
  - h. Clinical trials testing with other approaches, including high-dose chemotherapy with stem cell transplant
5. Clinical trials testing new anticancer agents, new combinations, and new ways of giving treatment.

Reference <http://www.cancer.gov/cancertopics/pdq/treatment/breast/Patient/page6>

## **Thyroid Cancer**

1. Vandetanib
2. Consider Clinical Trials (preferred)

3. Small Molecule kinase inhibitor (such as sorafenib or sunitinib)
4. Dacarbazine
5. Bisphosphonate or denosumab

### **Acute Myeloid Leukemia**

1. ATRA+ Daunorubicin with cytarabine or ATRA with idarubicin
2. Arsenic trioxide 0.15mg/kg/day x 5 days for 5 weeks x 2 cycles, then ATRA 45mg/m<sup>2</sup> x 7 days with daunorubicin 50mg/m<sup>2</sup> x 3 days for 2 cycles.
3. Daunorubicin 60mg/m<sup>2</sup> x 3 days with cytarabine 200mg/m<sup>2</sup> x 7 days x 1 cycle, then cytarabine 1.5-2g/m<sup>2</sup> q12h x 5 days with daunorubicin 45mg/m<sup>2</sup> x 3 days x 1 cycle 5 doses of IT chemotherapy.
4. ATRA 45mg/m<sup>2</sup> x 15 days with idarubicin 5 mg/m<sup>2</sup> and cytarabine 1 g/m<sup>2</sup> x 4 days x 1 cycle, then ATRA x 15 days with mitoxantrone 10 mg/m<sup>2</sup>/day x 5 days x 1 cycle, then ATRA x 15 days with idarubicin 12 mg/m<sup>2</sup> x 1 dose with cytarabine 150 mg/m<sup>2</sup>/8 h x 4 days x 1 cycle

### **Bladder**

#### Treatment Guidelines

#### First Line chemotherapy (neoadjuvant, adjuvant, and metastatic)

1. Gemcitabine and cisplatin
2. MVAC (methotrexate, vinblastine, doxorubicin, and cisplatin)

#### Second-line Chemotherapy (metastatic)

1. Palliative options include single agent therapy such as bleomycin, cisplatin, carboplatin, docetaxel, doxorubicin, 5-fluorouracil, gemcitabine, ifosfamide, paclitaxel, pemetrexed, methotrexate, and vinorelbine

#### Radiosensitizing chemotherapy regimens

#### First line chemotherapy

1. Cisplatin alone or in combination with 5-fluorouracil
2. Mitomycin C in combination with 5-fluorouracil

### **Colon Cancer**

#### Initial Therapy

1. FOLFOX with or without bevacizumab **OR** CapeOX with or without bevacizumab **OR** panitumumab (KRAS wild-type [WT] gene only) **OR** FOLFIRI with or without cetuximab or panitumumab **OR** 5-FU/leucovorin or Capecitabine with or without bevacizumab

#### Therapy after First Progression

1. Options:
  - a. FOLFIRI
  - b. Irinotecan
  - c. FOLFIRI with cetuximab or panitumumab
  - d. Cetuximab (KRAS WT gene only + irinotecan
  - e. FOLFOX
  - f. CapeOX
  - g. Cetuximab with irinotecan ( if patient is not tolerable of combination then use single agent)
  - h. Cetuximab
  - i. Panitumumab
  - j. Irinotecan with or without oxaliplatin
  - k. FOLFIRI
  - l. Cetuximab with irinotecan

#### Third Line of Therapy

1. Cetuximab with irinotecan or consider single agent if patient is not tolerant of combination.
2. FOLFOX or CapeOX

### **Kidney Cancer**

#### First-line Therapy

1. Sunitinib
2. Bevacizumab
3. Pazopanib
4. Temsirolimus

#### Second Line of Therapy

1. Everolimus followed by tyrosine kinase inhibitor
2. Sorafenib followed by cytokine therapy
3. Sunitinib followed by cytokine therapy
4. Pazopanib followed by tyrosine kinase inhibitor
5. Temsirolimus followed by tyrosine kinase inhibitor
6. Bevacizumab followed by tyrosine kinase inhibitor

## **Non Small cell Lung Cancer**

### **First line of Therapy**

1. Bevacizumab with chemotherapy if criteria met
2. Cisplatin/premetrexed if criteria met
3. Cetuximab/vinorelbine/cisplatin
4. Chemotherapy or Cetuximab/vinorelbine/cisplatin

### **Second-Line Therapy**

1. Docetaxel
2. Pemetrexed
3. Erlotinib
4. Platinum doublet with or without bevacizumab (if erlotinib is given as first line and adenocarcinoma)
5. Erlotinib

### **Third Line Therapy**

1. Erlotinib

## **NonHodgkin Lymphoma** [www.nci.net.pk/Guidelines/Non-Hodgkins.doc](http://www.nci.net.pk/Guidelines/Non-Hodgkins.doc)

### **First Line Therapy**

1. Alemtuzumab
2. Chlorambucil with/without prednisone with/without rituximab
3. Cyclophosphamide with/without prednisone with/without rituximab
4. CVP (cyclophosphamide, vincristine, prednisone) with/without rituximab
5. FC (fludarabine, cyclophosphamide) with/without rituximab
6. Fludarabine with/without rituximab

### **Second-Line Therapy**

1. Alemtuzumab
2. PC (pentostatin, cyclophosphamide) with/without rituximab
3. Chemotherapy (as above) with/alemtuzumab

## **Rectal Cancer**

### **Initial Therapy**

1. FOLFOX with/without bevacizumab
2. CapeOX with/without bevacizumab
3. FOLFOX with/without cetuximab or panitumumab

4. FOLFIRI with bevacizumab with/without bevacizumab
5. FOLFOXIRI

#### Second-Line of Therapy

1. FOLFIRI
2. Irinotecan
3. FOLFIRI with Cetuximab or panitumumab
4. Cetuximab (KRAS WT gene) with irinotecan
5. FOLFOX
6. CapeOX
7. Irinotecan with/without oxaliplatin

#### Third Line of Therapy

1. Cetuximab (KRAS WT gene only) with irinotecan or panitumumab