

LUNG CANCER TREATMENT REGIMENS (Part 1 of 4)

The selection, dosing, and administration of anticancer agents and the management of associated toxicities are complex. Drug dose modifications and schedule and initiation of supportive care interventions are often necessary because of expected toxicities and because of individual patient variability, prior treatment, and comorbidities. Thus, the optimal delivery of anticancer agents requires a healthcare delivery team experienced in the use of such agents and the management of associated toxicities in patients with cancer. The cancer treatment regimens below may include both FDA-approved and unapproved uses/regimens and are provided as references only to the latest treatment strategies. Clinicians must choose and verify treatment options based on the individual patient.

NOTE: GREY SHADED BOXES CONTAIN UPDATED REGIMENS.

General treatment notes for NSCLC:

- Regarding concurrent chemotherapy and radiotherapy, data support full-dose cisplatin over carboplatin-based regimens; carboplatin regimens have not been adequately tested.¹
- Principles for treating advanced disease:¹
 - » Platinum-based chemotherapy prolongs survival, improves symptom control, and yields superior quality of life compared with best supportive care.
 - » No specific platinum-based cytotoxic combination is clearly superior to another.
 - » Patients with performance statuses of 3 or 4, of any age, do not benefit from cytotoxic treatment, except erlotinib for epidermal growth factor receptor (EGFR) mutation-positive patients.
 - » Histology is important in treatment selection.

| REGIMEN | DOSING |
|---|--|
| Non-Small Cell Lung Cancer (NSCLC) | |
| Chemotherapy for Adjuvant Therapy | |
| Cisplatin (Platinol; CDDP) + vinorelbine (Navelbine) ¹⁻⁴ | Days 1 and 8: Cisplatin 50mg/m ² IV, <u>plus</u> Days 1, 8, 15 and 22: Vinorelbine 25mg/m ² IV. Repeat cycle every 4 weeks for 4 cycles. OR Day 1: Cisplatin 100mg/m ² IV, <u>plus</u> Days 1, 8, 15 and 22: Vinorelbine 30mg/m ² IV. Repeat cycle every 4 weeks for 4 cycles. |
| Cisplatin + etoposide (Toposar, VePesid, Etopophos; VP-16) ^{1,3} | Day 1: Cisplatin 100mg/m ² IV, <u>plus</u> Days 1-3: Etoposide 100mg/m ² IV. Repeat cycle every 4 weeks for 4 cycles. |
| Cisplatin + vinblastine (Velban) ^{1,3} | Days 1: Cisplatin 80mg/m ² IV. Repeat cycle every 3 weeks for 4 cycles. Days 1, 8, 15 and 22: Vinblastine 4mg/m ² IV, then every 2 weeks after Day 43 until last cisplatin administration. |
| Cisplatin + gemcitabine (Gemzar) ¹ | Day 1: Cisplatin 75mg/m ² IV, <u>plus</u> Days 1 and 8: Gemcitabine 1,250mg/m ² IV. Repeat cycle every 3 weeks. |
| Cisplatin + docetaxel (Taxotere) ^{1,5} | Day 1: Docetaxel 75mg/m ² IV + cisplatin 75mg/m ² IV. Repeat cycle every 3 weeks. |
| Cisplatin + pemetrexed (Alimta) ¹ | Day 1: Cisplatin 75mg/m ² IV + pemetrexed 500mg/m ² IV. Repeat cycle every 3 weeks for 4 cycles. (For adenocarcinoma and large cell carcinoma and NSCLC NOS without specific histologic subtype) |
| Paclitaxel (Taxol) + carboplatin (Paraplatin) ^{1,6} | Day 1: Paclitaxel 200mg/m ² IV + carboplatin AUC=6mg/mL/min IV. Repeat cycle every 3 weeks for 4 cycles. |
| Concurrent Chemotherapy and Radiotherapy (RT) | |
| Cisplatin + etoposide ^{1,7} | Days 1, 8, 29 and 36: Cisplatin 50mg/m ² IV, <u>plus</u> Days 1-5 and 29-33: Etoposide 50mg/m ² IV, <u>plus</u> Concurrent thoracic RT 1.8Gy/day for 5 days/week (total dose, 61Gy); preferred regimen. |
| Cisplatin + vinblastine ^{1,8} | Days 1 and 29: Cisplatin 100mg/m ² IV, <u>plus</u> Days 1, 8, 15, 22 and 29: Vinblastine 5mg/m ² IV. Concurrent thoracic RT (total dose, 60Gy); preferred regimen. |

continued

LUNG CANCER TREATMENT REGIMENS (Part 2 of 4)

| REGIMEN | DOSING |
|---|--|
| Sequential Chemotherapy and Radiotherapy (RT) | |
| Cisplatin + vinblastine ^{1,8} | Days 1 and 29: Cisplatin 100mg/m ² IV. Days 1, 8, 15, 22 and 29: Vinblastine 5mg/m ² IV <u>followed by</u> RT with 60Gy in 30 fractions beginning on Day 50. |
| Paclitaxel + carboplatin ^{1,9} | Day 1: Paclitaxel 200mg/m ² IV + carboplatin AUC=6mg/mL/min IV. Repeat cycle every 3 weeks; 2 cycles, <u>followed by</u> thoracic RT 63Gy beginning on Day 42. |
| Systemic Therapy for Advanced Disease—First-Line | |
| Bevacizumab (Avastin) + carboplatin and paclitaxel ^{1,10,11} | Day 1: Paclitaxel 200mg/m ² IV. Day 1: Carboplatin AUC 6 IV. Repeat every 3 weeks for 6 cycles. Day 1: Bevacizumab 15mg/kg IV every 3 weeks until disease progression. |
| Cetuximab (Erbix) + cisplatin and vinorelbine ^{1,12} | Day 1: Cetuximab 400mg/m ² IV + cisplatin 80mg/m ² IV, <u>plus</u> Days 1 and 8: Vinorelbine 25mg/m ² IV, <u>plus</u> Day 8: Cetuximab 250mg/m ² IV once weekly. Repeat cycle every 3 weeks for 6 cycles. Indicated in advanced NSCLC |
| Erlotinib (Tarceva) ^{1,13,14} | Day 1: Erlotinib 150mg orally once daily; following 4 cycles of platinum-based chemotherapy. Indicated for EGFR mutation-positive patients and may be considered as an option for patients who test positive for an EGFR mutation. |
| Cisplatin + paclitaxel ^{1,15} | Day 1: Paclitaxel 135mg/m ² IV over 24 hrs. Day 2: Cisplatin 75mg/m ² IV. Repeat every 3 weeks. |
| Cisplatin + gemcitabine ^{1,15} | Day 1: Cisplatin 100mg/m ² IV. Days 1, 8 and 15: Gemcitabine 1,000mg/m ² IV. Repeat every 4 weeks. |
| Cisplatin + docetaxel ^{1,5} | Day 1: Cisplatin 75mg/m ² IV. Day 1: Docetaxel 75mg/m ² IV. Repeat every 3 weeks. |
| Cisplatin + vinorelbine ^{1,5} | Day 1: Cisplatin 100mg/m ² IV. Days 1, 8, 15 and 22: Vinorelbine 25mg/m ² IV over 10 min. Repeat every 4 weeks. |
| Carboplatin + paclitaxel ^{1,15} | Day 1: Carboplatin AUC 5-6 IV. Day 1: Paclitaxel 225mg/m ² IV over 3 hours. Repeat every 3 weeks. |
| Pemetrexed (Alimta) + cisplatin ^{1,16,17} | Day 1: Pemetrexed 500mg/m ² IV + cisplatin 75mg/m ² IV. Repeat cycle every 3 weeks. |
| Crizotinib (Xalkori) ^{1,18} | Crizotinib 250mg orally twice daily. May reduce to 200mg twice daily not tolerated or toxicity occurs. If further reduction is needed, reduce to 250mg once daily. Indicated for ALK-positive patients. |
| Systemic Therapy for Advanced Disease—Second-Line | |
| Docetaxel or Pemetrexed or Erlotinib ^{1,19-21} *In patients who have experienced disease progression either during or after first-line therapy, single-agent docetaxel, pemetrexed, or erlotinib are established second-line agents. | Day 1: Docetaxel 75mg/m ² IV. Repeat cycle every 3 weeks. Docetaxel has proved superior to BSC, vinorelbine, or ifosfamide with improved survival and quality of life. <div style="text-align: center;">OR</div> Day 1: Pemetrexed 500mg/m ² IV. Repeat cycle every 3 weeks. Pemetrexed has been shown to be superior to docetaxel with less toxicity in patients with adenocarcinoma and large cell carcinoma (non-squamous histology). <div style="text-align: center;">OR</div> Day 1: Erlotinib 150mg orally once daily. Erlotinib has proved superior to BSC with significantly improved survival and delayed time to symptom deterioration in NSCLC patients previously treated with chemotherapy. |

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LUNG CANCER TREATMENT REGIMENS (Part 3 of 4)

| REGIMEN | DOSING |
|---|--|
| Systemic Therapy for Advanced Disease—Third-Line | |
| Erlotinib ^{1,21} | Day 1: Erlotinib 150mg orally once daily. Erlotinib has proved superior to BSC with significantly improved survival and delayed time to symptom deterioration in patients who previously failed first- and second-line chemotherapy. |
| General treatment note for SCLC: <ul style="list-style-type: none"> ▪ During chemotherapy plus radiation therapy, cisplatin/etoposide therapy is preferred.¹ ▪ Clinical trial preferred in second-line/relapsed disease setting.¹ | |
| Small Cell Lung Cancer (SCLC) | |
| Limited Stage | |
| Cisplatin + etoposide ^{1,22,23} NOTE: Category 1 | Day 1: Cisplatin 60mg/m ² IV, <u>plus</u> Days 1–3: Etoposide 120mg/m ² IV. Repeat cycle every 3 weeks for at least 4 cycles. Radiotherapy 1.8Gy once daily to 54–61Gy or 1.5Gy twice daily to 45Gy. |
| Cisplatin + etoposide ^{1,24} NOTE: Category 1 | Day 1: Cisplatin 80mg/m ² IV, <u>plus</u> Days 1–3: Etoposide 100mg/m ² IV. Repeat every 4 weeks for 4–6 cycles. |
| Carboplatin + etoposide ^{1,25} | Day 1: Carboplatin AUC 5–6 IV, <u>plus</u> Days 1–3: Etoposide 100mg/m ² IV. Repeat cycle every 3 weeks for 4–6 cycles. |
| Extensive Stage | |
| Cisplatin + etoposide ^{1,26} | Day 1: Cisplatin 80mg/m ² IV. Days 1–3: Etoposide 80mg/m ² IV. Repeat every 3 weeks for 4–6 cycles. |
| Cisplatin + etoposide ^{1,27} | Days 1: Cisplatin 75mg/m ² IV. Days 1–3: Etoposide 100mg/m ² IV. Repeat every 3 weeks for 4–6 cycles. |
| Cisplatin + etoposide ^{1,28} | Days 1–3: Cisplatin 25mg/m ² IV + etoposide 100mg/m ² . For 4–6 cycles. |
| Cisplatin + irinotecan ^{1,22,29,30} | Day 1: Cisplatin 60mg/m ² IV. Days 1, 8 and 15: Irinotecan 60mg/m ² IV. Repeat cycle every 4 weeks for 4 cycles. <hr style="border-top: 1px dotted black;"/> OR Day 1 and 8: Cisplatin 30mg/m ² IV. Day 1 and 8: Irinotecan 65mg/m ² IV. Repeat every 3 weeks for 4–6 cycles. |
| Carboplatin + irinotecan ^{1,31} | Day 1: Carboplatin AUC=5mg/mL/min IV, <u>plus</u> Days 1, 8 and 15: Irinotecan 50mg/m ² IV. Repeat cycle every 4 weeks for 4–6 cycles. |
| Carboplatin + Etoposide ^{1,32} | Day 1: Carboplatin AUC 5–6. Days 1–3: Etoposide 100mg/m ² IV. Repeat every 4 weeks for 4–6 cycles. |
| Second-Line/Relapse Disease | |
| Topotecan (for relapse >2–3 months up to 6 months) ^{1,33–35} NOTE: Category 1 | Days 1–5: Topotecan 2.3mg/m ² orally once daily. Repeat every 3 weeks. <hr style="border-top: 1px dotted black;"/> OR Days 1–5: Topotecan 1.5mg/m ² day IV over 30 min. Repeat every 3 weeks. |
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LUNG CANCER TREATMENT REGIMENS (Part 4 of 4)

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