

# Small Cell Lung Cancer Treatment Regimens

**Clinical Trials:** The NCCN recommends cancer patient participation in clinical trials as the gold standard for treatment.

Cancer therapy selection, dosing, administration, and the management of related adverse events can be a complex process that should be handled by an experienced healthcare team. Clinicians must choose and verify treatment options based on the individual patient; drug dose modifications and supportive care interventions should be administered accordingly. The cancer treatment regimens below may include both U.S. Food and Drug Administration-approved and unapproved indications/regimens. These regimens are only provided to supplement the latest treatment strategies.

These Guidelines are a work in progress that may be refined as often as new significant data becomes available. The National Comprehensive Cancer Network Guidelines<sup>®</sup> are a consensus statement of its authors regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult any NCCN Guidelines<sup>®</sup> is expected to use independent medical judgment in the context of individual clinical circumstances to determine any patient's care or treatment. The NCCN makes no warranties of any kind whatsoever regarding their content, use, or application and disclaims any responsibility for their application or use in any way.

**Note:** All recommendations are category 2A unless otherwise indicated.

## ► Systemic Therapy as Primary or Adjuvant Therapy<sup>1</sup>

REGIMEN	DOSING
<b>Limited Stage, Primary or Adjuvant Therapy</b>	
<b>Preferred Regimens</b>	
Cisplatin/Etoposide (Category 1 with RT) <sup>2-5,a</sup>	<p><b>Day 1:</b> Cisplatin 60mg/m<sup>2</sup> IV over 60 minutes  <b>Days 1-3:</b> Etoposide 120mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3-4 weeks for 4 cycles.</p> <p><b>OR</b></p> <p><b>Day 1:</b> Cisplatin 75mg/m<sup>2</sup> IV over 2 hours  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3-4 weeks for 4 cycles.</p>
<b>Other Recommended Regimens</b>	
Carboplatin/Etoposide <sup>4,7,b</sup>	<p><b>Day 1:</b> Carboplatin AUC 5-6 IV over 30 minutes, <b>followed by:</b>  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3-4 weeks for 4 cycles.</p>
Cisplatin/Etoposide (Category 1 with RT) <sup>2-5,a</sup>	<p><b>Days 1-3:</b> Cisplatin 25mg/m<sup>2</sup> IV over 60 minutes daily  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3-4 weeks for 4 cycles.</p>
<b>Extensive Stage, Primary Therapy</b>	
<b>Preferred Regimens</b>	
Atezolizumab + Carboplatin/Etoposide (Category 1 for every 3 week cycle) <sup>8-10,c</sup>	<p><b>Day 1:</b> Atezolizumab 1,200mg IV, <b>followed by:</b>  <b>Day 1:</b> Carboplatin AUC 5 IV over 30 minutes  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3 weeks for 4 cycles, <b>followed by maintenance therapy with:</b>  <b>Day 1:</b> Atezolizumab 840mg IV.            Repeat cycle every 2 weeks.</p> <p><b>OR</b></p> <p><b>Day 1:</b> Atezolizumab 1,200mg IV, <b>followed by:</b>  <b>Day 1:</b> Carboplatin AUC 5 IV over 30 minutes  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3 weeks for 4 cycles, <b>followed by maintenance therapy with:</b>  <b>Day 1:</b> Atezolizumab 1,200mg IV.            Repeat cycle every 3 weeks.</p> <p><b>OR</b></p> <p><b>Day 1:</b> Atezolizumab 1,200mg IV, <b>followed by:</b>  <b>Day 1:</b> Carboplatin AUC 5 IV over 30 minutes  <b>Days 1-3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3 weeks for 4 cycles, <b>followed by maintenance therapy with:</b>  <b>Day 1:</b> Atezolizumab 1,680mg IV.            Repeat cycle every 4 weeks.</p>
Durvalumab + Carboplatin/Etoposide (Category 1) <sup>11,12,c</sup>	<p><b>Day 1:</b> Durvalumab 1,500mg IV over 60 minutes, <b>followed by:</b>  <b>Day 1:</b> Carboplatin AUC 5-6 IV over 30 minutes  <b>Days 1-3:</b> Etoposide 80-100mg/m<sup>2</sup> IV over 60 minutes daily.            Repeat cycle every 3 weeks for 4 cycles, <b>followed by maintenance therapy with:</b>  <b>Day 1:</b> Durvalumab 1,500mg IV over 60 minutes.            Repeat cycle every 4 weeks.</p>

continued

# Small Cell Lung Cancer Treatment Regimens

## ► Systemic Therapy as Primary or Adjuvant Therapy<sup>1</sup> (continued)

REGIMEN	DOSING
Extensive Stage, Primary Therapy (continued)	
Preferred Regimens (continued)	
Durvalumab + Cisplatin/ Etoposide + (Category 1) <sup>11,12,a,c</sup>	<p><b>Day 1:</b> Durvalumab 1,500mg IV over 2 hours, <b>followed by:</b>  <b>Day 1:</b> Cisplatin 75-80mg/m<sup>2</sup> IV over 2 hours  <b>Days 1-3:</b> Etoposide 80-100mg/m<sup>2</sup> IV over 60 minutes daily.                      Repeat cycle every 3 weeks for 4 cycles, <b>followed by maintenance therapy with:</b>  <b>Day 1:</b> Durvalumab 1,500mg IV over 60 minutes.                      Repeat cycle every 4 weeks.</p>
Other Recommended Regimens	
Carboplatin/Etoposide <sup>4-7</sup>	<p><b>Day 1:</b> Carboplatin AUC 5–6 IV over 30 minutes, <b>followed by:</b>  <b>Days 1–3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.                      Repeat cycle every 3-4 weeks for 4–6 cycles.</p>
Cisplatin/Etoposide <sup>4,6,13-15,a</sup>	<p><b>Day 1:</b> Cisplatin 75mg/m<sup>2</sup> IV over 2 hours  <b>Days 1–3:</b> Etoposide 100mg/m<sup>2</sup> IV over 60 minutes daily.                      Repeat cycle every 3-4 weeks for 4–6 cycles.  <b>OR</b>  <b>Day 1:</b> Cisplatin 80mg/m<sup>2</sup> IV over 2 hours  <b>Days 1–3:</b> Etoposide 80mg/m<sup>2</sup> IV over 60 minutes daily.                      Repeat cycle every 3-4 weeks for 4–6 cycles.  <b>OR</b>  <b>Days 1–3:</b> Cisplatin 25mg/m<sup>2</sup> IV over 60 minutes  <b>Days 1–3:</b> Etoposide: 100mg/m<sup>2</sup> IV over 60 minutes daily.                      Repeat cycle every 3-4 weeks for 4-6 cycles.</p>
Useful in Certain Circumstances	
Carboplatin + Irinotecan <sup>4,5,16</sup>	<p><b>Day 1:</b> Carboplatin AUC 5 IV over 30 minutes  <b>Days 1,8,15:</b> Irinotecan 50mg/m<sup>2</sup> IV over 90 minutes.                      Repeat cycle every 4 weeks for 4–6 cycles.</p>
Cisplatin + Irinotecan <sup>4,5,17,18,a</sup>	<p><b>Day 1:</b> Cisplatin 60mg/m<sup>2</sup> IV over 60 minutes  <b>Days 1,8,15:</b> Irinotecan 60mg/m<sup>2</sup> IV over 90 minutes.                      Repeat cycle every 4 weeks for 4-6 cycles.  <b>OR</b>  <b>Days 1,8:</b> Cisplatin 30mg/m<sup>2</sup> IV over 60 minutes  <b>Days 1,8:</b> Irinotecan 65mg/m<sup>2</sup> IV over 90 minutes.                      Repeat cycle every 3 weeks for 4–6 cycles.</p>

## ► Subsequent Systemic Therapy (ECOG PS 0–2)<sup>1</sup>

Relapse ≤6 months or Primary Progressive Disease	
Preferred Regimens <sup>h</sup>	
Lurbinectedin <sup>19-21</sup>	<p><b>Day 1:</b> Lurbinectedin 3.2 mg/m<sup>2</sup> IV over 60 minutes.                      Repeat cycle every 3 weeks</p>
Topotecan <sup>22-24</sup>	<p><b>Days 1–5:</b> Topotecan 1.5mg/m<sup>2</sup> IV over 30 minutes daily.                      Repeat cycle every 3 weeks.  <b>OR</b>  <b>Days 1–5:</b> Topotecan 2.3mg/m<sup>2</sup> orally once daily.                      Repeat cycle every 3 weeks.</p>
Other Recommended Regimens	
Bendamustine (Category 2B) <sup>25</sup>	<p><b>Days 1,2:</b> Bendamustine 120mg/m<sup>2</sup> IV over 10–60 minutes (based on product selection) daily.                      Repeat cycle every 3 weeks for 6 cycles.</p>
Cyclophosphamide + Doxorubicin + Vincristine (CAV) <sup>23,d,e</sup>	<p><b>Day 1:</b> Cyclophosphamide 1,000mg/m<sup>2</sup> IV over 60 minutes  <b>Day 1:</b> Doxorubicin 45mg/m<sup>2</sup> IV push  <b>Day 1:</b> Vincristine 2mg IV over 5-10 minutes.                      Repeat cycle every 3 weeks.</p>

continued

# Small Cell Lung Cancer Treatment Regimens

## ► Subsequent Systemic Therapy (ECOG PS 0–2)<sup>1</sup> (continued)

REGIMEN	DOSING
<b>Relapse ≤6 months or Primary Progressive Disease (continued)</b>	
<b>Other Recommended Regimens (continued)</b>	
Docetaxel <sup>26,f</sup> <i>Premedication is required.</i>	<b>Day 1:</b> Docetaxel 60-100 mg/m <sup>2</sup> IV over 60 minutes. Repeat cycle every 3 weeks.
Gemcitabine <sup>27,28</sup>	<b>Days 1,8,15:</b> Gemcitabine 1,000mg/m <sup>2</sup> IV over 30 minutes. Repeat cycle every 4 weeks.
Irinotecan <sup>29</sup>	<b>Days 1,8,15,22:</b> Irinotecan 100mg/m <sup>2</sup> IV over 90 minutes. Repeat cycle every 4 weeks.
Nivolumab <sup>30-33,c</sup>	<b>Day 1:</b> Nivolumab 240mg IV over 30 minutes. Repeat cycle every 2 weeks. <b>OR</b> <b>Day 1:</b> Nivolumab 480mg IV over 30 minutes. Repeat cycle every 4 weeks.
Oral Etoposide <sup>34,35</sup>	<b>Days 1–21:</b> Etoposide 50mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks.
Paclitaxel <sup>36,37,g</sup> <i>Premedication is required.</i>	<b>Day 1:</b> Paclitaxel 175mg/m <sup>2</sup> IV over 3 hours. Repeat cycle every 3 weeks. <b>OR</b> <b>Days 1,8,15,22,29,36:</b> Paclitaxel 80mg/m <sup>2</sup> IV over 60 minutes weekly. Repeat cycle every 8 weeks (6 weeks on followed by 2 weeks off treatment).
Pembrolizumab <sup>38-42,c</sup>	<b>Day 1:</b> Pembrolizumab 200mg IV over 30 minutes. Repeat cycle every 3 weeks for up to 2 years. <b>OR</b> <b>Day 1:</b> Pembrolizumab 400mg IV over 30 minutes. Repeat cycle every 6 weeks for up to 2 years.
Temozolomide <sup>43,44</sup>	<b>Days 1–21:</b> Temozolomide 75mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks. <b>OR</b> <b>Days 1-5:</b> Temozolomide 200mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks.
Vinorelbine <sup>45,46</sup>	<b>Days 1,8,15:</b> Vinorelbine 25–30mg/m <sup>2</sup> IV over 5-10 minutes. Repeat cycle every 3 weeks.
<b>Relapse &gt;6 months or Primary Progressive Disease</b>	
<b>Preferred: Original Regimen<sup>h</sup></b>	
<b>Other Recommended Regimens</b>	
Bendamustine (Category 2B) <sup>25</sup>	<b>Days 1,2:</b> Bendamustine 120mg/m <sup>2</sup> IV over 10–60 minutes (based on product selection) daily. Repeat cycle every 3 weeks for 6 cycles.
Cyclophosphamide + Doxorubicin + Vincristine (CAV) <sup>23,d,e</sup>	<b>Day 1:</b> Cyclophosphamide 1,000mg/m <sup>2</sup> IV over 60 minutes. <b>Day 1:</b> Doxorubicin 45mg/m <sup>2</sup> IV push.
Docetaxel <sup>26,f</sup> <i>Premedication is required.</i>	<b>Day 1:</b> Docetaxel 60-100 mg/m <sup>2</sup> IV over 60 minutes. Repeat cycle every 3 weeks.
Gemcitabine <sup>27,28</sup>	<b>Days 1,8,15:</b> Gemcitabine 1,000mg/m <sup>2</sup> IV over 30 minutes. Repeat cycle every 4 weeks.
Irinotecan <sup>29</sup>	<b>Days 1,8,15,22:</b> Irinotecan 100mg/m <sup>2</sup> IV over 90 minutes. Repeat cycle every 4 weeks.
Lurbinectedin <sup>19-21</sup>	<b>Day 1:</b> Lurbinectedin 3.2mg/m <sup>2</sup> IV over 60 minutes. Repeat cycle every 3 weeks.

continued

# Small Cell Lung Cancer Treatment Regimens

## ► Subsequent Systemic Therapy (ECOG PS 0–2)<sup>1</sup> (continued)

REGIMEN	DOSING
Relapse >6 months or Primary Progressive Disease <sup>1</sup> (continued)	
Preferred: Original Regimen <sup>h</sup> (continued)	
Other Recommended Regimens (continued)	
Nivolumab <sup>30-33,c</sup>	<b>Day 1:</b> Nivolumab 240mg IV over 30 minutes. Repeat cycle every 2 weeks. <b>OR</b> <b>Day 1:</b> Nivolumab 480mg IV over 30 minutes. Repeat cycle every 4 weeks.
Oral Etoposide <sup>34,35</sup>	<b>Days 1–21:</b> Etoposide 50mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks.
Paclitaxel <sup>36,37,g</sup> <i>Premedication is required.</i>	<b>Day 1:</b> Paclitaxel 175mg/m <sup>2</sup> IV over 3 hours. Repeat cycle every 3 weeks. <b>OR</b> <b>Days 1,8,15,22,29,36:</b> Paclitaxel 80mg/m <sup>2</sup> IV over 60 minutes weekly. Repeat cycle every 8 weeks (6 weeks on followed by 2 weeks off treatment).
Pembrolizumab <sup>38-42,c</sup>	<b>Day 1:</b> Pembrolizumab 200mg IV over 30 minutes. Repeat cycle every 3 weeks for up to 2 years. <b>OR</b> <b>Day 1:</b> Pembrolizumab 400mg IV over 30 minutes. Repeat cycle every 6 weeks for up to 2 years.
Temozolomide <sup>43,44</sup>	<b>Days 1–21:</b> Temozolomide 75mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks. <b>OR</b> <b>Days 1-5:</b> Temozolomide 200mg/m <sup>2</sup> orally once daily. Repeat cycle every 4 weeks.
Topotecan <sup>22-24</sup>	<b>Days 1–5:</b> Topotecan 1.5mg/m <sup>2</sup> IV over 30 minutes daily. Repeat cycle every 3 weeks. <b>OR</b> <b>Days 1–5:</b> Topotecan 2.3mg/m <sup>2</sup> orally once daily. Repeat cycle every 3 weeks.
Vinorelbine <sup>45,46</sup>	<b>Days 1,8,15:</b> Vinorelbine 25–30mg/m <sup>2</sup> IV over 5-10 minutes. Repeat cycle every 3 weeks.

<sup>a</sup> Hydration is required with supplemental electrolytes pre- and post-administration of Cisplatin.

<sup>b</sup> Cisplatin contraindicated or not tolerated.

<sup>c</sup> Early and late-onset immune-related adverse events affecting multiple organ systems can occur in patients receiving immune checkpoint inhibitors. Patients with neurologic or life-threatening autoimmune disorders as well as those receiving high levels of immunosuppression for underlying disease should be approached with caution when considering immunotherapy. All patients will require extensive resources including ongoing intensive monitoring and supportive care.

<sup>d</sup> Oral hydration is strongly encouraged with Cyclophosphamide: poorly hydrated patients may need supplemental IV hydration. Patients should attain combined oral and IV hydration of 2,000-3,000mL/day on day of chemotherapy

<sup>e</sup> Doxorubicin is an anthracycline. Cumulative anthracycline dosage should be monitored.

<sup>f</sup> For Docetaxel: Premedication with dexamethasone for fluid retention is required. One recommended dosing strategy is: Dexamethasone 8mg orally twice daily for three consecutive days starting day 1 prior to Docetaxel administration.

<sup>g</sup> For Paclitaxel: Premedication for hypersensitivity is required. H2 antagonist – famotidine 20mg IV or orally (or equivalent H2 blocker) 30-60 minutes pre-Paclitaxel AND H2 antagonist – diphenhydramine 12.5-50mg IV or orally 30-60 minutes pre-Paclitaxel AND dexamethasone (for 21-day regimen) – dexamethasone 20mg orally approximately 12 and 6 hours pre-Paclitaxel OR dexamethasone 20mg IV 30 minutes pre-Paclitaxel OR dexamethasone (for weekly regimen) – dexamethasone 10mg IV 30 minutes pre-Paclitaxel. In the absence of infusion reactions for Doses 1-3, may consider dexamethasone 4mg IV 30 minutes pre-Paclitaxel starting with Dose 4.

<sup>h</sup> The use of immune checkpoint inhibitors is discouraged if there is a progression on maintenance atezolizumab or durvalumab at time of relapse.

## References

1. Referenced with permission from NCCN Clinical Practice Guidelines in Oncology™ Small Cell Lung Cancer. V2.2022. Available at: [http://www.nccn.org/professionals/physician\\_gls/pdf/sclc.pdf](http://www.nccn.org/professionals/physician_gls/pdf/sclc.pdf). Accessed January 17, 2022.
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