

# 肺癌診療指引

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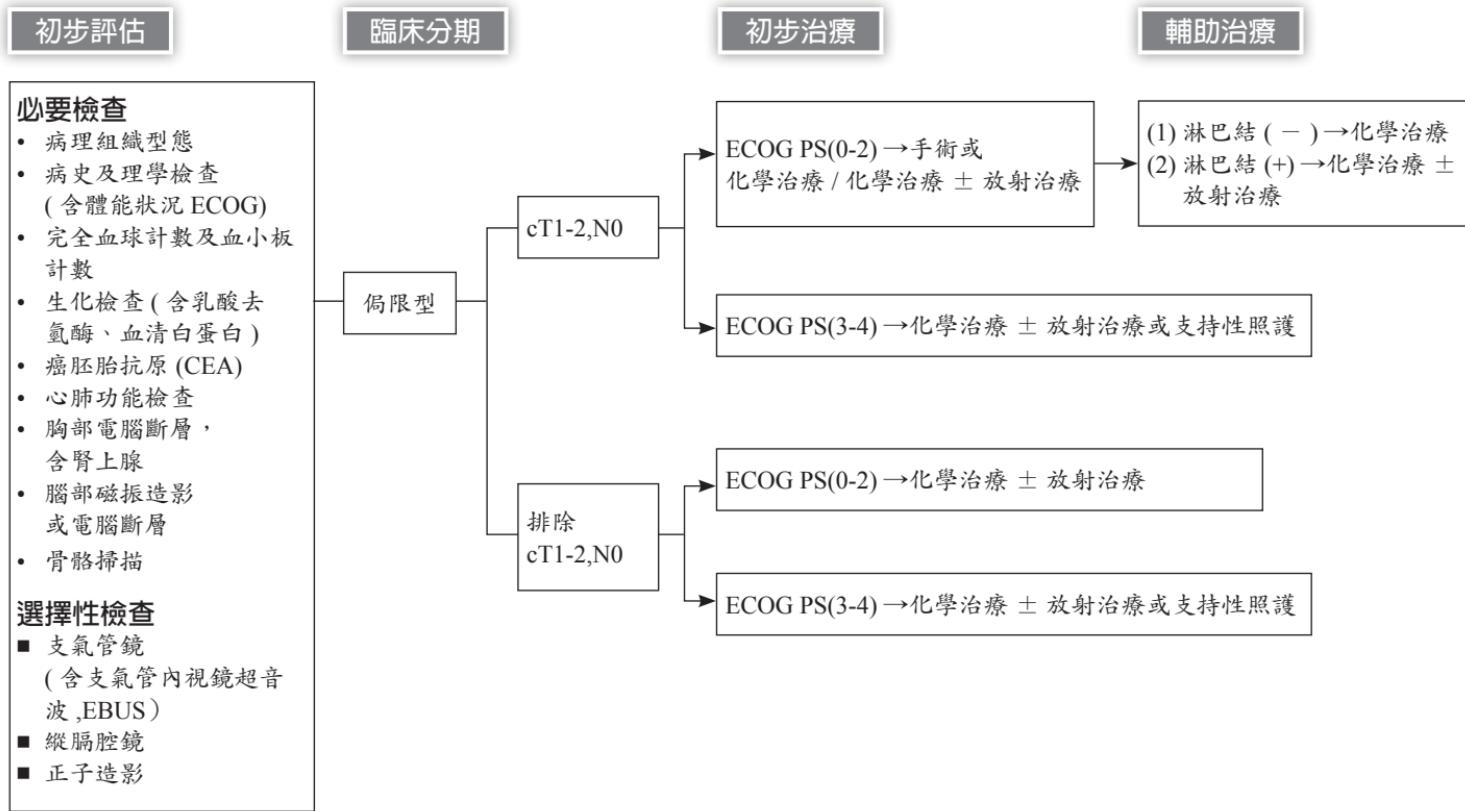
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106 年版	107 年修訂版
修訂 NSCLC-3 T1-3,N3 T4,N2-3 → 同步化學及放射治療或標靶治療 ± 放射治療	修訂 NSCLC-2~3 T1-3,N3 T4,N2-3 → 同步化學及放射治療 ± 免疫治療或標靶治療 ± 放射治療
修訂 NSCLC-4 M1a-b → 化學治療 / 標靶治療	修訂 NSCLC-4 M1a-c → 化學治療 / 標靶治療 / 免疫治療 (Immunotherapy)
	新增 NSCLC-4 pstage IIIC(T3N3 T4N3) → 同步化學及放射治療 ± 免疫治療

# 《小細胞肺癌診療指引共識 -1 》



# 《小細胞肺癌診療指引共識 -2》

初步評估

臨床分期

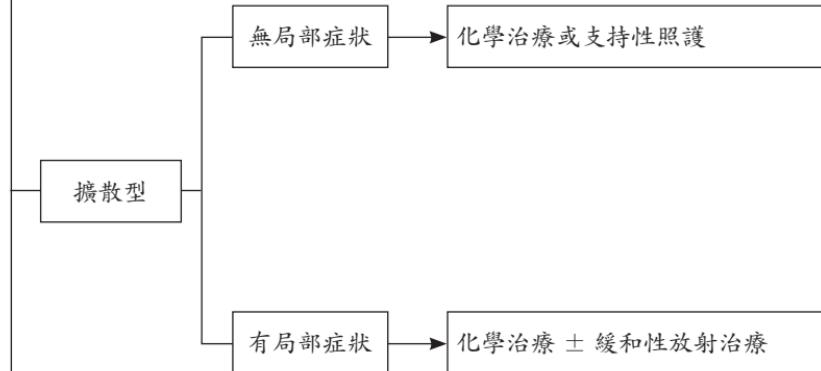
初步治療

## 必要檢查

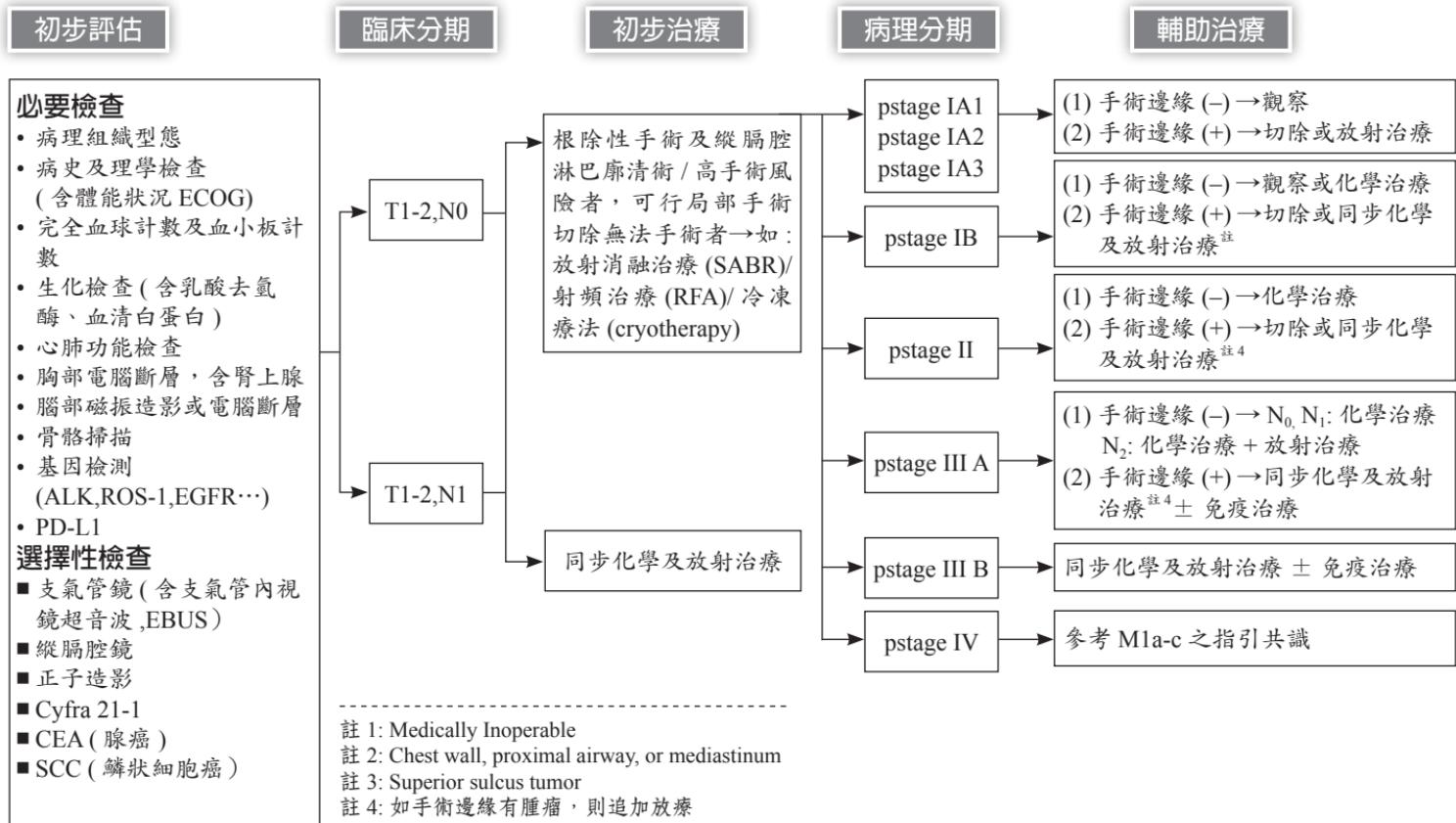
- 病理組織型態
- 病史及理學檢查  
(含體能狀況 ECOG)
- 完全血球計數及血小板計數
- 生化檢查(含乳酸去氫酶、血清白蛋白)
- 癌胚抗原 (CEA)
- 心肺功能檢查
- 胸部電腦斷層，含腎上腺
- 腦部磁振造影或電腦斷層
- 骨骼掃描

## 選擇性檢查

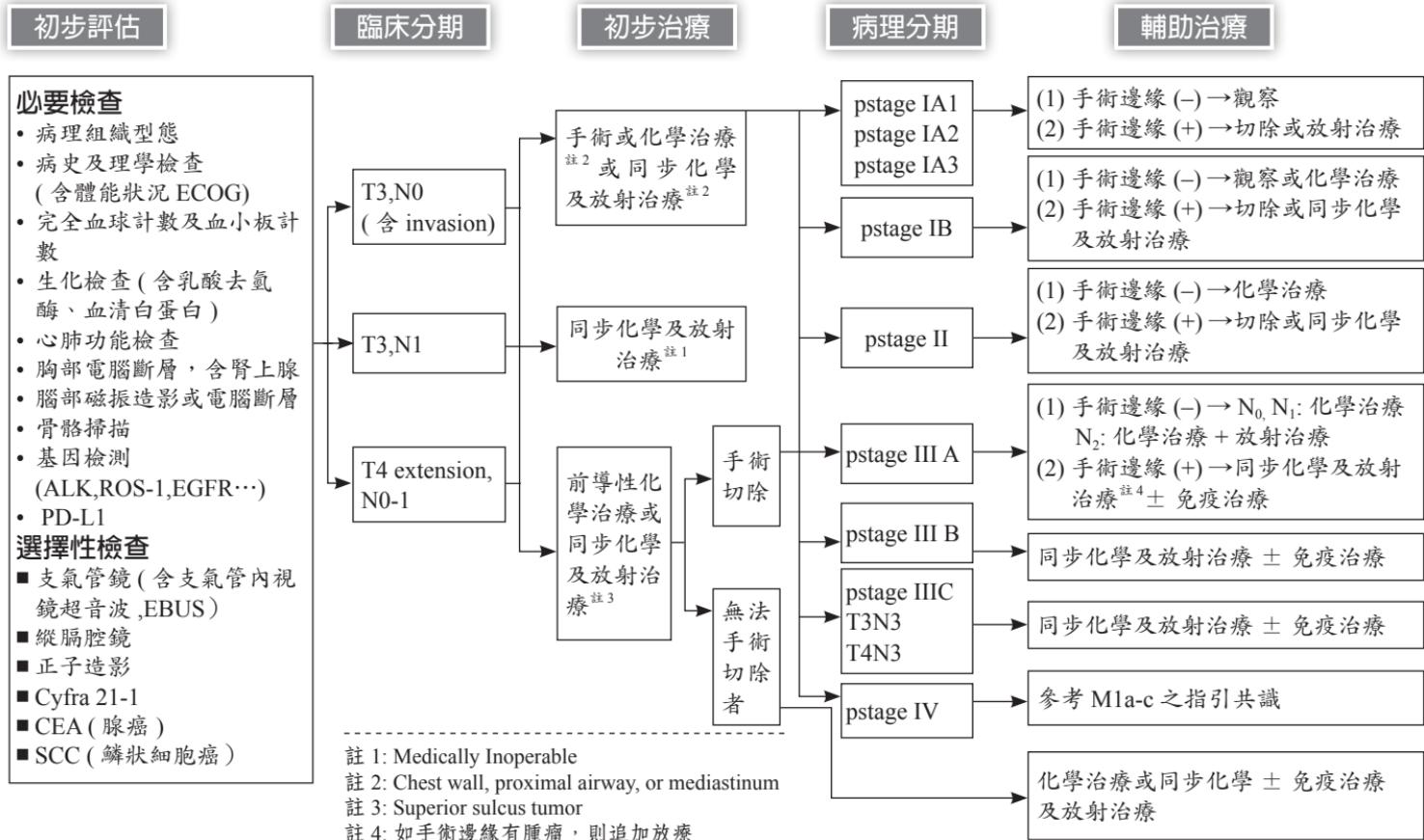
- 支氣管鏡(含支氣管內視鏡超音波,EBUS)
- 縱膈腔鏡
- 正子造影



# 《非小細胞肺癌診療指引共識 -1 》



# 《非小細胞肺癌診療指引共識 -2》



# 《非小細胞肺癌診療指引共識 -3 》

## 初步評估

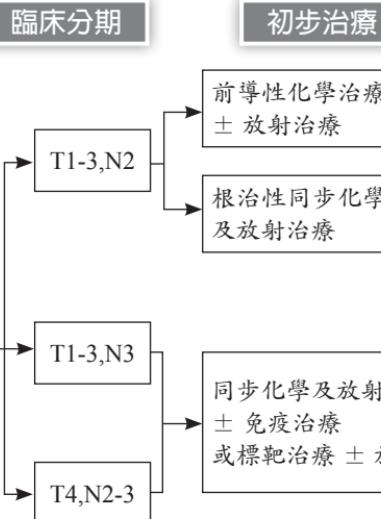
### 必要檢查

- 病理組織型態
- 病史及理學檢查 (含體能狀況 ECOG)
- 完全血球計數及血小板計數
- 生化檢查 (含乳酸去氫酶、血清白蛋白)
- 心肺功能檢查
- 胸部電腦斷層，含腎上腺
- 腦部磁振造影或電腦斷層
- 骨骼掃描
- 基因檢測  
(ALK,ROS-1,EGFR…)
- PD-L1

### 選擇性檢查

- 支氣管鏡 (含支氣管內視鏡超音波,EBUS)
- 縱膈腔鏡
- 正子造影
- Cyfra 21-1
- CEA (腺癌)
- SCC (鱗狀細胞癌)

## 臨床分期



## 初步治療

## 病理分期

## 輔助治療

註 1: Medically Inoperable

註 2: Chest wall, proximal airway, or mediastinum

註 3: Superior sulcus tumor

註 4: 如手術邊緣有腫瘤，則追加放療

# 《非小細胞肺癌診療指引共識 -4 》

初步評估

臨床分期

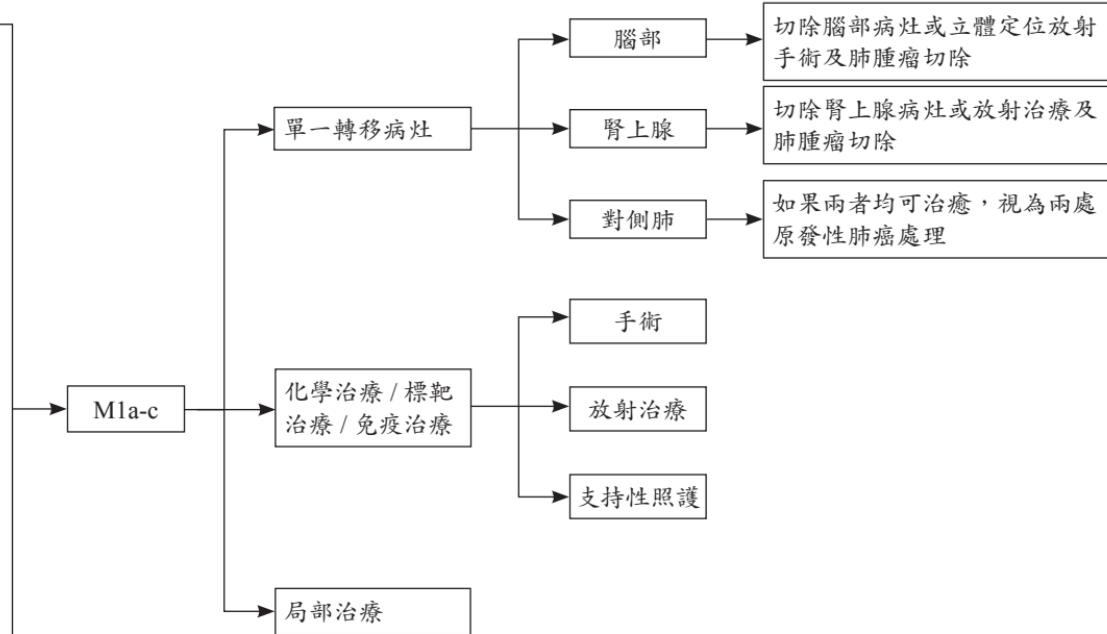
初步治療

## 必要檢查

- 病理組織型態
- 病史及理學檢查  
(含體能狀況 ECOG)
- 完全血球計數及血小板計數
- 生化檢查(含乳酸去氫酶、  
血清白蛋白)
- 心肺功能檢查
- 胸部電腦斷層，含腎上腺
- 腦部磁振造影或電腦斷層
- 骨骼掃描
- 基因檢測  
(ALK,ROS-1,EGFR…)
- PD-L1

## 選擇性檢查

- 支氣管鏡(含支氣管內視鏡  
超音波,EBUS)
- 縱膈腔鏡
- 正子造影
- Cyfra 21-1
- CEA(腺癌)
- SCC(鱗狀細胞癌)



## 《肺癌追蹤流程 (五年追蹤期)》

### (一) 小細胞肺癌：

前三年每 3-4 個月病史及理學檢查並追蹤一次胸部電腦斷層 (包括肝臟及腎上腺)/ 腦部核磁共振 / 骨骼掃描，  
滿三年後每 6 個月病史及理學檢查並追蹤一次胸部電腦斷層 (包括肝臟及腎上腺)/ 腦部核磁共振 / 骨骼掃描。

### (二) 非小細胞肺癌術後

前兩年每 3 個月病史及理學檢查，每 6 個月一次胸部電腦斷層 / 腦部核磁共振 / 骨骼掃描，  
滿兩年後每 6 個月病史及理學檢查並追蹤一次胸部電腦斷層 / 腦部核磁共振 / 骨骼掃描。  
滿五年後每 12 個月病史及理學檢查並追蹤一次胸部電腦斷層 / 腦部核磁共振 / 骨骼掃描。

1. NCCN Clinical Practice in Oncology:Small Cell Lung Cancer V.2.2018.
2. NCCN Clinical Practice in Oncology:Non-Small Cell Lung Cancer V.6.2018
3. NCCN Clinical Practice in Oncology:Small Cell Lung Cancer V.5.2015.
4. NCCN Clinical Practice in Oncology:Non-Small Cell Lung Cancer V.2.2015.
5. Takada M, Fukuoka M, Kawahara M, et al. Phase III study of concurrent versus sequential thoracic radiotherapy in combination with cisplatin and etoposide for limited-stage small-cell lung cancer: results of the Japan Clinical Oncology Group Study 9104. *J Clin Oncol.* 2002;15;20(14):3054-3060.
6. Sundstrøm S, Bremnes RM, Kaasa S, et al. Cisplatin and etoposide regimen is superior to cyclophosphamide, epirubicin, and vincristine regimen in small-cell lung cancer: results from a randomized phase III trial with 5 years' follow-up. *J Clin Oncol.* 2002;15;20(24):4665-4672.
7. Rossi A, Di Maio M, Chiodini P, et al. Carboplatin- or cisplatin-based chemotherapy in first-line treatment of small-cell lung cancer: the COCIS meta-analysis of individual patient data. *J Clin Oncol.* 2012 ;10;30(14):1692-1698.
8. Pavel ME, Hainsworth JD, Baudin E, et al. Everolimus plus octreotide long-acting repeatable for the treatment of advanced neuroendocrine tumours associated with carcinoid syndrome (RADIANT-2): a randomised, placebo-controlled, phase 3 study. *Lancet.* 2011 ;10;378(9808):2005-2012.
9. Sholl LM, Xiao Y, Joshi V, et al. EGFR mutation is a better predictor of response to tyrosine kinase inhibitors in non-small cell lung carcinoma than FISH, CISH, and immunohistochemistry. *Am J Clin Pathol.* 2010;133(6):922-934.
10. Mitsudomi T, Morita S, Yatabe Y, et al. Gefitinib versus cisplatin plus docetaxel in patients with non-small-cell lung cancer harbouring mutations of the epidermal growth factor receptor (WJTOG3405): an open label, randomised phase 3 trial. *Lancet Oncol.* 2010;11(2):121-128.
11. Maemondo M, Inoue A, Kobayashi K, et al. Gefitinib or chemotherapy for non-small-cell lung cancer with mutated EGFR. *N Engl J Med.* 2010;24;362(25):2380-2388.
12. Song WA, Zhou NK, Wang W, et al. Survival benefit of neoadjuvant chemotherapy in non-small cell lung cancer: an updated meta-analysis of 13 randomized control trials. *J Thorac Oncol.* 2010;5(4):510-6.

13. Shah AA, Berry MF, Tzao C, et al. Induction chemoradiation is not superior to induction chemotherapy alone in stage IIIA lung cancer. Ann Thorac Surg. 2012;93(6):1807-1812.
14. Kappers I, van Sandick JW, Burgers SA, et al. Surgery after induction chemotherapy in stage IIIA-N2 non-small cell lung cancer: why pneumonectomy should be avoided. Lung Cancer. 2010;68(2):222-227.

# 《肺癌抗癌藥物治療指引》

## Small Cell Lung Cancer

### Chemotherapy as primary or adjuvant therapy

**Limited Stage (maximum of 4-6 cycles):**

**During chemotherapy + RT, cisplatin/etoposide is recommended**

**The use of myeloid growth factors is not recommended during CCRT**

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4-6	8
Etoposide	100	1-3	Q3W	4-6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	25	1-3	Q3W	4-6	8
Etoposide	100	1-3	Q3W	4-6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5-6	1	Q3W	4-6	1
Etoposide	100	1-3	Q3W	4-6	

**Extensive Stage (maximum of 4-6 cycles):**

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75-80	1	Q3W	4-6	2, 3
Etoposide	100	1-3	Q3W	4-6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5-6	1	Q3W	4-6	4
Etoposide	100	1-3	Q3W	4-6	

**Subsequent Chemotherapy:****Clinical trial preferred.****Relapse <6 months, PS 0-2:**

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Topotecan	1.5	1-5	Q3W		5

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Topotecan	2.3 PO	1-5	Q3W		6

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cyclophosphamide	1000	1	Q3W		5
Doxorubicin	45	1	Q3W		
Vincristine	2 mg	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Nivolumab	3 mg/kg	1	Q2W		7
藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Nivolumab	3 mg/kg	1	Q2W		7
Ipilimumab	1 mg/kg	1	Q2W		

## 參考文獻

- Skarlos DV, Samantas E, Briassoulis E, et al. Randomized comparison of early versus late hyperfractionated thoracic irradiation concurrently with chemotherapy in limited disease small-cell lung cancer: a randomized phase II study of the Hellenic Cooperative Oncology Group (HeCOG). Ann Oncol 2001;12(9):1231-1238.
- Spigel R, Townley PM, Waterhouse DM, et al. Randomized phase II study of bevacizumab in combination with chemotherapy in previously untreated extensive-stage small-cell lung cancer: results from the SALUTE trial. J Clin Oncol 2011;29:2215-2222.
- Niell HB, Herndon JE, Miller AA, et al. Randomized phase III Intergroup trial of etoposide and cisplatin with or without paclitaxel and granulocyte-colony stimulating factor in patients with extensive-stage small-cell lung cancer: Cancer and Leukemia Group B trial 9732. J Clin Oncol 2005;23:3752-3759.
- Okamoto H, Watanabe K, Nishiwaki Y, et al. Phase II study of area under the plasmaconcentration-versus-time curve-based carboplatin plus standard-dose intravenous etoposide in elderly patients with small cell lung cancer. J Clin Oncol 1999;17(11):3540-3545.
- von Pawel J, Schiller JH, Shepherd FA, et al. Topotecan versus cyclophosphamide, doxorubicin, and vincristine for the treatment of recurrent small-cell lung cancer. J Clin Oncol 1999;17(2):658-667.
- O'Brien ME, Ciuleanu TE, Tsekov H, et al. Phase III trial comparing supportive care alone with supportive care with oral topotecan in patients with relapsed small-cell lung cancer. J Clin Oncol. 2006;24:5441-5447.

7. Atonia SJ, Lopez-Martin JA, Bendell J, et al. Nivolumab alone and nivolumab plus ipilimumab in recurrent small-cell lung cancer (CheckMate 032): a multicentre, open-label, phase 1/2 trial. Lancet Oncol 2016;17:883-895.
8. Faivre-Finn C, Snee M, et al. Concurrent once-daily versus twice-daily chemoradiotherapy in patients with limited-stage small-cell lung cancer (CONVERT): an open-label, phase 3, randomised, superiority trial. Lancet Oncol 2017;18:1116-1125.

## Non-Small Cell Lung Cancer

### Adjuvant therapy

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W	4	1-3, 25
Vinorelbine	30	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	19
Vinorelbine	60 PO	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W	4	4
Gemcitabine	1250	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	5
Docetaxel	75	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	6
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
UFUR	200 PO BID/TID				20

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q3W	4	12
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q3W	4	13
Gemcitabine	1000	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	4	14
Paclitaxel	200	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	100	1	Q4W	4	21
Etoposide	100	1-3	Q4W	4	

### Neoadjuvant therapy

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W	4	1-3, 25
Vinorelbine	30	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	19
Vinorelbine	60 PO	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W	4	4
Gemcitabine	1250	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	5
Docetaxel	75	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	4	6
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
UFUR	200 PO BID/TID				20

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q3W	4	12
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q3W	4	13
Gemcitabine	1000	1, 8	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	4	14
Paclitaxel	200	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	100	1	Q4W	4	21
Etoposide	100	1-3	Q4W	4	

## Chemotherapy regimens used with radiation therapy

### Concurrent chemotherapy/RT regimens

Regimens can be used as neoadjuvant/preoperative/induction chemoradiotherapy

Regimens can be used as adjuvant or definitive concurrent chemotherapy/RT

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	50	1, 8	Q4W	2	24
Etoposide	50	1-5	Q4W	2	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	50	1, 8	Q4W	2	7, 8
Etoposide	50mg PO BID	1, 2, 5, 6	QW	10	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q3W	4	9
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	3	10
Pemetrexed	500	1	Q3W	3 + 4 (additional)	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	45-50	1	QW		11
Carboplatin	AUC 2	1	QW		
± Paclitaxel	200	1	Q3W	2 (additional)	
± Carboplatin	AUC 6	1	Q3W	2 (additional)	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	100	1, 29		concurrent thoracic RT	22
Vinblastine	5	1, 8, 15, 22, 29			

**Sequential Chemotherapy/RT Regimens (Adjuvant):**  
**As all the neoadjuvant/adjuvant chemotherapy regimens**

### Target Therapy

#### EGFR-mutation-positive

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Afatinib	40 mg		QD AC		16

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gefitinib	250 mg		QD		17

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Osimertinib	80 mg		QD		23

#### ALK positive

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Crizotinib	250 mg		BID		18

## 參考文獻

★三院有個別版本

1. Winton T, Livingston R, Johnson D, et al. Vinorelbine plus cisplatin vs. observation in resected non-small-lung cancer. *N Engl J Med* 2005;352:2589-2597.
2. Arriagada R, Bergman B, Dunant A, et al. The International Adjuvant Lung Cancer Trial Collaborative Group. Cisplatin-based adjuvant chemotherapy in patients with completely resected non-small cell lung cancer. *N Engl J Med* 2004;350:351-360.
3. Douillard JY, Rosell R, De Lena M, et al. Adjuvant vinorelbine plus cisplatin versus observation in patients with completely resected stage IB-IIIA non-small-cell lung cancer (Adjuvant Navelbine International Trialist Association [ANITA]): a randomised controlled trial. *Lancet Oncol* 2006;7:719-727.
4. Pérol M, Chouaid C, Pérol D, et al. Randomized, phase III study of gemcitabine or erlotinib maintenance therapy versus observation, with predefined second-line treatment, after cisplatin-gemcitabine induction chemotherapy in advanced non-small-cell lung cancer. *J Clin Oncol* 2012;30:3516-3524.
5. Fossella F, Pereira JR, von Pawel J, et al. Randomized, multinational, phase III study of docetaxel plus platinum combinations versus vinorelbine plus cisplatin for advanced non-small-cell lung cancer: the TAX 326 study group. *J Clin Oncol* 2003;21:3016-3024.
6. Kreuter M, Vansteenkiste J, Fishcer JR, et al. Randomized phase 2 trial on refinement of early-stage NSCLC adjuvant chemotherapy with cisplatin and pemetrexed versus cisplatin and vinorelbine: the TREAT study. *Ann Oncol* 2013;24:986-992.
7. Albain KS, Crowley JJ, Turrisi AT III, et al. Concurrent cisplatin, etoposide, and chest radiotherapy in pathologic stage IIIB non-small-cell lung cancer: A Southwest Oncology Group Phase II Study, SWOG 9019. *J Clin Oncol* 2002;20:3454-3460.
8. Curran WJ Jr, Paulus R, Langer CJ, et al. Sequential vs. concurrent chemoradiation for stage III non-small cell lung cancer:

- randomized phase III trial RTOG 9410. *J Natl Cancer Inst.* 2011;103:1452-1460.
- 9. Govindan R, Bogart J, Stinchcombe T, et al. Randomized phase II study of pemetrexed, carboplatin, and thoracic radiation with or without cetuximab in patients with locally advanced unresectable non-small-cell lung cancer: Cancer and Leukemia Group B trial 30407. *J Clin Oncol* 2011;29:3120-3125.
  - 10. Choy H, Gerber DE, Bradley JD, et al. Concurrent pemetrexed and radiation therapy in the treatment of patients with inoperable stage III non-small cell lung cancer: a systematic review of completed and ongoing studies. *Lung Cancer* 2015;87:232-240.
  - 11. Bradley JD, Paulus R, Komaki R, et al. Standard-dose conformal radiotherapy with concurrent and consolidation carboplatin plus paclitaxel with or without cetuximab for patients with stage IIIA or IIIB non-small-cell lung cancer (RTOG 0617): a randomized, two-by-two factorial phase 3 study. *Lancet Oncol* 2015;16:187-199.
  - 12. Zhang L, Ou W, Liu Q, et al. Pemetrexed plus carboplatin as adjuvant chemotherapy in patients with curative resected non-squamous non-small cell lung cancer. *Thoracic Cancer*. 2014;5(1):50-56.
  - 13. Usami N, Yokoi K, Hasegawa Y, et al. Phase II study of carboplatin and gemcitabine as adjuvant chemotherapy in patients with completely resected non-small cell lung cancer: a report from the Central Japan Lung Study Group, CJLSG 0503 trial. *Int J Clin Oncol*. 2010;15(6):583-7.
  - 14. Strauss GM, Herndon JE, Maddaus MA, et al. Adjuvant paclitaxel plus carboplatin compared with observation in stage IB non-small-cell lung cancer: CALGB 9633 with the Cancer and Leukemia Group B, Radiation Therapy Oncology Group, and North Central Cancer Treatment Group Study Groups. *J Clin Oncol*. 2008;26(31):5043-51.
  - 15. Product Information: TARCEVA(R) oral tablets, erlotinib oral tablets. OSI Pharmaceuticals, LLC (per FDA), Farmingdale, NY, 2013.
  - 16. Product Information: GILOTTRIF(TM) oral tablets, afatinib oral tablets. Boehringer Ingelheim Pharmaceuticals, Inc. (per FDA), Ridgefield, CT, 2013.
  - 17. Product Information: IRESSA(R) oral tablets, gefitinib oral tablets. AstraZeneca Pharmaceuticals (per FDA), Wilmington, DE, 2015.
  - 18. Product Information: XALKORI(R) oral capsules, crizotinib oral capsules. Pfizer Labs (per FDA), New York, NY, 2013.
  - 19. Krzakowski M, Provencio M, Utracka-Hutka B, et al. Oral vinorelbine and cisplatin as induction chemotherapy and

- concomitant chemo-radiotherapy in stage III non-small cell lung cancer: final results of an international phase II trial. *J Thorac Oncol.* 2008 Sep;3(9):994-1002.
20. Product Information: UFUR Capsule. tegafur, uracil oral capsules. 2015.
21. Arriagada R, Bergman B, Dunant A, et al. Cisplatin-based adjuvant chemotherapy in patients with completely resected non-small-cell lung cancer. *N Engl J Med.* 2004;350(4):351-360.
22. Curran WJ, Jr., Paulus R, Langer CJ, et al. Sequential vs. concurrent chemoradiation for stage III non-small cell lung cancer: randomized phase III trial RTOG 9410. *J Natl Cancer Inst.* 2011;103(19):1452-1460.
23. Mok TS, Wu YL, Ahn MJ, et al. Osimertinib or Platinum-Pemetrexed in EGFR T790M-Positive Lung Cancer. *N Engl J Med.* 2017;376(7):629-640.
24. J. Liang, N. Bi, S. Wu, et al. Etoposide and cisplatin versus paclitaxel and carboplatin with concurrent thoracic radiotherapy in unresectable stage III non-small cell lung cancer: a multicenter randomized phase III trial. *Ann Oncol.* 2017;28(4):777-783.
25. Szilasi M, Müller V, Juhász E, et al. Cisplatin-vinorelbine chemotherapy in non-small cell lung cancer is safe and well tolerated: results of a retrospective Hungarian clinical data analysis. *Expert Opin Drug Saf.* 2009 Jan;8(1):9-14

## Systemic Therapy for Advanced or Metastatic Disease of NSCLC

### First-line systemic therapy options

Adenocarcinoma, large cell, NSCLC NOS (PS 0-1)

No contraindications to the addition of Pembrolizumab or Atezolizumab

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W	4	28
Carboplatin	AUC 6	1	Q3W	4	
Pemetrexed	500	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W	35	29
Cisplatin	75	1	Q3W		
Pemetrexed	500	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Atezolizumab	1200 mg	1	Q3W	6-PD	30
Bevacizumab	15 mg/kg	1	Q3W	6-PD	
Cisplatin	75	1	Q3W	6	
Pemetrexed	500	1	Q3W	6	

## Contraindications to the addition of Pembrolizumab or Atezolizumab

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Bevacizumab	15 mg/kg	1	Q3W	6	1
Carboplatin	AUC 6	1	Q3W		
Paclitaxel	200	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Bevacizumab	15 mg/kg	1	Q3W	4	2
Carboplatin	AUC 6	1	Q3W		
Pemetrexed	500	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Bevacizumab	15 mg/kg	1	Q3W	4	3
Cisplatin	75	1	Q3W		
Pemetrexed	500	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	6	4
Albumin-Paclitaxel	100	1, 8, 15	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6		Q3W		5
Docetaxel	75		Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 4-5	1	Q4W		7
Etoposide	50mg PO BID	1-14 or 1-21	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q4W	4	8
Gemcitabine	1000	1, 8, 15	Q4W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		9
Paclitaxel	200	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	6	10
Pemetrexed	500	1	Q3W	6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W		5
Docetaxel	75	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	100	1	Q3W		11
Etoposide	100	1-3	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W		9
Gemcitabine	1000	1, 8	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W	6	12
Gemcitabine	1250	1, 8	Q3W	6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	135	1	Q3W		13
Cisplatin	75	2	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W		12
Pemetrexed	500	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W	8	14
Docetaxel	85	8	Q3W	8	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W	6	15
Vinorelbine	25	1, 8	Q3W	6	

**Adenocarcinoma, large cell, NSCLC NOS (PS 2)**

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Albumin-Paclitaxel	260	1	Q3W		16

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Albumin-Paclitaxel	100	1, 8, 15	Q4W		17

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	6	18
Albumin-Paclitaxel	100	1, 8, 15	Q3W	6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		5
Docetaxel	75	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	325	1			6
Etoposide	100	1-3			

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 4-5	1	Q4W		7
Etoposide	50mg PO BID	1-14 or 1-21	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q4W	4	8
Gemcitabine	1000	1, 8, 15	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		9
Paclitaxel	200	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W	6	10
Pemetrexed	500	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Docetaxel	75	1	Q3W	6	19, 20

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1250	1, 8, 15	Q4W	9	21

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1250	1, 8	Q3W	6	22, 23

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W	8	14
Docetaxel	85	8	Q3W	8	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W	6	15
Vinorelbine	25	1, 8	Q3W	6	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	225	1	Q3W	6	24

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	80	1, 8, 15	Q4W	4	25, 26

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Pemetrexed	500	1	Q3W		27

## 參考文獻

1. Sandler A, Gray R, Perry MC, et al. Paclitaxel-carboplatin alone or with bevacizumab for non-small lung cancer. N Engl J Med 2006;355:2542-2550.
2. Patel JD, Socinski MA, Garon EB, et al. Pointbreak: a randomized phase III study of pemetrexed plus carboplatin and bevacizumab followed by maintenance pemetrexed and bevacizumab versus paclitaxel plus carboplatin and bevacizumab followed by maintenance bevacizumab in patients with stage IIIB or IV nonsquamous non-small cell lung cancer. J Clin Oncol 2013;31:3004-3011.
3. Barlesi F, Scherpereel A, Rittmeywr A, et al. Randomized phase III trial of maintence bevacizumab with or without pemetrexed after first-line induction with bevacizumab, cisplatin, and pemetrxed in advanced nonsquamous non-small cell lung cancer: AVAPERL. J Clin Onco 2013;31:3004-3011.

4. Socinski MA1, Bondarenko I, Karaseva NA, et al. Weekly nab-paclitaxel in combination with carboplatin versus solvent-based paclitaxel plus carboplatin as first-line therapy in patients with advanced non-small-cell lung cancer: final results of a phase III trial. *J Clin Oncol* 2012;30:2055-2062.
5. Fossella F, Periera JR, von Pawel J, et al. Randomized, multinational, phase III study of docetaxel plus platinum combinations versus vinorelbine plus cisplatin for advanced non-small-cell lung cancer: the TAX 326 study group. *J Clin Oncol* 2003;21(16):3016-3024.
6. Klastersky J, Sculier JP, Lacroix H, et al. A randomized study comparing cisplatin or carboplatin with etoposide in patients with advanced non-small-cell lung cancer: European Organization for Research and Treatment of Cancer Protocol 07861. *J Clin Oncol* 1990;8:1556-1562.
7. Frasci G, Comella P, Panza N, et al. Carboplatin-oral etoposide personalized dosing in elderly non-small cell lung cancer patients. Gruppo Oncologico Cooperativo Sud-Italia. *Eur J Cancer*. 1998;34:1710-1714.
8. Danson S, Middleton MR, O'Byrne KJ, et al. Phase III trial of gemcitabine and carboplatin versus mitomycin, ifosfamide, and cisplatin or mitomycin, vinblastine, and cisplatin in patients with advanced nonsmall cell lung carcinoma. *Cancer*. 2003;98:542-553.
9. Ohe Y, Ohashi Y, Kubota K, et al. Randomized phase III study of cisplatin plus irinotecan versus carboplatin plus paclitaxel, cisplatin plus gemcitabine, and cisplatin plus vinorelbine for advanced nonsmall-cell lung cancer: Four-Arm Cooperative Study in Japan. *Ann Oncol* 2007;18:317-323.
10. Scagliotti GV, Kortsik C, Dark GG, et al. Pemetrexed combined with oxaliplatin or carboplatin as first-line treatment in advanced non-small cell lung cancer: a multicenter, randomized, phase II trial. *Clin Cancer Res*. 2005;11:690-696.
11. Cardenal F, Lopez-Cabrero MP, Anton A, et al. Randomized phase III study of gemcitabine-cisplatin versus etoposide-cisplatin in the treatment of locally advanced or metastatic non-small cell lung cancer. *J Clin Oncol* 1999;17:12-18.
12. Scagliotti GV, Parikh P, von Pawel J, et al. Phase III study comparing cisplatin plus gemcitabine with cisplatin plus pemetrexed in chemotherapy-naïve patients with advanced-stage NSCLC. *J Clin Oncol* 2008;26:3543-3551.
13. Schiller JH, Harrington D, Belani CP, et al. Comparison of Four Chemotherapy Regimens for Advanced Non-Small-Cell Lung

- Cancer. N Engl J Med 2002; 346:92-98.
- 14. Pujol JL, Breton JL, Gervais R, et al. Gemcitabine-docetaxel versus cisplatin-vinorelbine in advanced or metastatic non-small-cell lung cancer: a phase III study addressing the case for cisplatin. Ann Oncol 2005;16:602-610.
  - 15. Tan EH, Szczesna A, Krzakowski M, et al. Randomized study of vinorelbine--gemcitabine versus vinorelbine--carboplatin in patients with advanced non-small cell lung cancer. Lung Cancer. 2005;49:233-240.
  - 16. Green MR, Manikhas GM, Orlov S, et al. Abraxane , a novel Cremophor -free, albumin-bound particle form of paclitaxel for the treatment of advanced non-small-cell lung cancer. Ann Oncol. 2006;17:1263-1268.
  - 17. Rizvi NA, Riely GJ, Azzoli CG, et al. Phase I/II trial of weekly intravenous 130-nm albumin-bound paclitaxel as initial chemotherapy in patients with stage IV non-small-cell lung cancer. J Clin Oncol. 2008;26:639-643.
  - 18. Socinski MA1, Bondarenko I, Karaseva NA, et al. Weekly nab-paclitaxel in combination with carboplatin versus solvent-based paclitaxel plus carboplatin as first-line therapy in patients with advanced non-small-cell lung cancer: final results of a phase III trial. J Clin Oncol 2012;30:2055-2062.
  - 19. Fossella FV, DeVore R, Kerr RN, et al. Randomized phase III trial of docetaxel versus vinorelbine or ifosfamide in patients with advanced non-small cell lung cancer previously treated with platinumcontaining chemotherapy regimens. The TAX 320 Non-Small Cell Lung Cancer Study Group. J Clin Oncol 2000;18:2354-2362.
  - 20. Fidias PM, Dakhil SR, Lyss AP, et al. Phase III study of immediate compared with delayed docetaxel after front-line therapy with gemcitabine plus carboplatin in advanced non-small-cell lung cancer. J Clin Oncol. 2009;27:591-598.
  - 21. Zatloukal P, Kanitz E, Magyar P, Jassem J, et al. Gemcitabine in locally advanced and metastatic non-small cell lung cancer: the Central European phase II study. Lung Cancer. 1998;22:243-250.
  - 22. Sederholm C, Hillerdal G, Lamberg K, et al. Phase III trial of gemcitabine plus carboplatin versus single-agent gemcitabine in the treatment of locally advanced or metastatic non-small-cell lung cancer: the Swedish Lung Cancer Study Group. J Clin Oncol. 2005;23:8380-8388.
  - 23. Pérol M, Chouaid C, Pérol D, et al. Randomized, phase III study of gemcitabine or erlotinib maintenance therapy versus observation, with predefined second-line treatment, after cisplatin-gemcitabine induction chemotherapy in advanced non-small-cell lung cancer. J Clin Oncol. 2012;30:3516-24.
  - 24. Lilenbaum RC, Herndon JE 2nd, List MA, et al. Single-agent versus combination chemotherapy in advanced non-small-cell

- lung cancer: the cancer and leukemia group B (study 9730).J Clin Oncol. 2005;23:190-196.
25. Ceresoli GL, Gregorc V, Cordio S, et al. Phase II study of weekly paclitaxel as second-line therapy in patients with advanced non-small cell lung cancer. Lung Cancer. 2004;44:231-239.
26. Yasuda K, Igishi T, Kawasaki Y, et al. Phase II study of weekly paclitaxel in patients with non-small cell lung cancer who have failed previous treatments. Oncology. 2004;66:347-352.
27. Hanna N, Shepherd FA, Fossella FV, et al. Randomized phase III trial of pemetrexed versus docetaxel in patients with non-small-cell lung cancer previously treated with chemotherapy. J Clin Oncol. 2004;22:1589-1597.
28. Langer CJ, et al. Carboplatin and pemetrexed with or without pembrolizumab for advanced, non-squamous non-small-cell lung cancer: a randomised, phase 2 cohort of the open-label KEYNOTE-021 study. The Lancet Oncology. 2016;17:1497-1508.
29. Leena Gandhi, Delvys Rodríguez-Abreu, et al. Pembrolizumab plus Chemotherapy in Metastatic Non-Small-Cell Lung Cancer. N Engl J Med 2018; 378:2078-2092.
30. Mark A. Socinski, Robert M. Jotte, et al. Atezolizumab for First-Line Treatment of Metastatic Nonsquamous NSCLC. N Engl J Med 2018; 378:2288-2301.

## Squamous cell carcinoma (PS 0-1)

### No contraindications to the addition of Pembrolizumab or Atezolizumab

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W	35	22
Paclitaxel	200	1	Q3W	4	
Carboplatin	AUC 6	1	Q3W	4	

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Pembrolizumab	200 mg	1	Q3W	35	22
Albumin-Paclitaxel	100	1, 8, 15	Q3W		
Carboplatin	AUC 6	1	Q3W		

### Contraindications to the addition of Pembrolizumab or Atezolizumab

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		13
Albumin-Paclitaxel	100	1, 8, 15	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		1
Docetaxel	75	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q4W		4
Gemcitabine	1000	1, 8, 15	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	200	1	Q3W		5
Carboplatin	AUC 6	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Docetaxel	75	1	Q3W		1
Cisplatin	75	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	100	1	Q3W		6
Etoposide	100	1-3	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	80	1	Q3W		5
Gemcitabine	1000	1, 8	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Cisplatin	75	1	Q3W		7
Gemcitabine	1250	1, 8	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	135	1	Q3W		8
Cisplatin	75	2	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		9
Docetaxel	85	8	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		10
Vinorelbine	25	1, 8	Q3W		

### Squamous cell carcinoma (PS 2)

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Albumin-Paclitaxel	260	1	Q3W		11

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		12, 13
Albumin-Paclitaxel	100	1, 8, 15	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		1
Docetaxel	75	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	325	1			2
Etoposide	100	1-3			

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 4-5	1	Q4W		3
Etoposide	50	1-14 or 1-21	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 5	1	Q4W		4
Gemcitabine	1000	1, 8, 15	Q4W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Carboplatin	AUC 6	1	Q3W		5
Paclitaxel	200	1	Q3W		

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Docetaxel	75	1	Q3W		14, 15

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1250	1, 8, 15	Q4W		16

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1250	1, 8	Q3W		17, 18

藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		9
Docetaxel	85	8	Q3W		
藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Gemcitabine	1000	1, 8	Q3W		10
Vinorelbine	25	1, 8	Q3W		
藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	225	1	Q3W		19
藥品名	劑量 mg/m <sup>2</sup>	給藥日	頻率	週期	參考文獻
Paclitaxel	80	1, 8, 15	Q4W		20, 21

## 參考文獻

1. Fossella F, Periera JR, von Pawel J, et al. Randomized, multinational, phase III study of docetaxel plus platinum combinations versus vinorelbine plus cisplatin for advanced non-small-cell lung cancer: the TAX 326 study group. *J Clin Oncol* 2003;21(16):3016-3024.
2. Klastersky J, Sculier JP, Lacroix H, et al. A randomized study comparing cisplatin or carboplatin with etoposide in patients with advanced non-small-cell lung cancer: European Organization for Research and Treatment of Cancer Protocol 07861. *J Clin Oncol* 1990;8:1556-1562.
3. Frasci G, Comella P, Panza N, et al. Carboplatin-oral etoposide personalized dosing in elderly non-small cell lung cancer patients. *Gruppo Oncologico Cooperativo Sud-Italia. Eur J Cancer*. 1998;34:1710-1714.
4. Danson S, Middleton MR, O'Byrne KJ, et al. Phase III trial of gemcitabine and carboplatin versus mitomycin, ifosfamide, and cisplatin or mitomycin, vinblastine, and cisplatin in patients with advanced nonsmall cell lung carcinoma. *Cancer*. 2003;98:542-

- 553.
5. Ohe Y, Ohashi Y, Kubota K, et al. Randomized phase III study of cisplatin plus irinotecan versus carboplatin plus paclitaxel, cisplatin plus gemcitabine, and cisplatin plus vinorelbine for advanced non-small cell lung cancer: Four-Arm Cooperative Study in Japan. *Ann Oncol* 2007;18:317-323.
  6. Cardenal F, Lopez-Cabrero MP, Anton A, et al. Randomized phase III study of gemcitabine-cisplatin versus etoposide-cisplatin in the treatment of locally advanced or metastatic non-small cell lung cancer. *J Clin Oncol* 1999;17:12-18.
  7. Scagliotti GV, Parikh P, von Pawel J, et al. Phase III study comparing cisplatin plus gemcitabine with cisplatin plus pemetrexed in chemotherapy-naïve patients with advanced-stage NSCLC. *J Clin Oncol* 2008;26:3543-3551.
  8. Schiller JH, Harrington D, Belani CP, et al. Comparison of Four Chemotherapy Regimens for Advanced Non-Small-Cell Lung Cancer. *N Engl J Med* 2002; 346:92-98.
  9. Pujol JL, Breton JL, Gervais R, et al. Gemcitabine-docetaxel versus cisplatin-vinorelbine in advanced or metastatic non-small-cell lung cancer: a phase III study addressing the case for cisplatin. *Ann Oncol* 2005;16:602-610.
  10. Tan EH, Szczesna A, Krzakowski M, et al. Randomized study of vinorelbine--gemcitabine versus vinorelbine--carboplatin in patients with advanced non-small cell lung cancer. *Lung Cancer*. 2005;49:233-240.
  11. Green MR, Manikhas GM, Orlov S, et al. Abraxane , a novel Cremophor -free, albumin-bound particle form of paclitaxel for the treatment of advanced non-small-cell lung cancer. *Ann Oncol*. 2006;17:1263-1268.
  12. Rizvi NA, Riely GJ, Azzoli CG, et al. Phase I/II trial of weekly intravenous 130-nm albumin-bound paclitaxel as initial chemotherapy in patients with stage IV non-small-cell lung cancer. *J Clin Oncol*. 2008;26:639-643.
  13. Socinski MA1, Bondarenko I, Karaseva NA, et al. Weekly nab-paclitaxel in combination with carboplatin versus solvent-based paclitaxel plus carboplatin as first-line therapy in patients with advanced non-small-cell lung cancer: final results of a phase III trial. *J Clin Oncol* 2012;30:2055-2062.
  14. Fossella FV, DeVore R, Kerr RN, et al. Randomized phase III trial of docetaxel versus vinorelbine or ifosfamide in patients with advanced non-small cell lung cancer previously treated with platinumcontaining chemotherapy regimens. The TAX 320 Non-Small Cell Lung Cancer Study Group. *J Clin Oncol* 2000;18:2354-2362.

15. Fidias PM, Dakhil SR, Lyss AP, et al. Phase III study of immediate compared with delayed docetaxel after front-line therapy with gemcitabine plus carboplatin in advanced non-small-cell lung cancer. *J Clin Oncol.* 2009;27:591-598.
16. Zatloukal P, Kanitz E, Magyar P, Jassem J, et al. Gemcitabine in locally advanced and metastatic non-small cell lung cancer: the Central European phase II study. *Lung Cancer.* 1998;22:243-250.
17. Sederholm C, Hillerdal G, Lamberg K, et al. Phase III trial of gemcitabine plus carboplatin versus single-agent gemcitabine in the treatment of locally advanced or metastatic non-small-cell lung cancer: the Swedish Lung Cancer Study Group. *J Clin Oncol.* 2005;23:8380-8388.
18. Pérol M, Chouaid C, Pérol D, et al. Randomized, phase III study of gemcitabine or erlotinib maintenance therapy versus observation, with predefined second-line treatment, after cisplatin-gemcitabine induction chemotherapy in advanced non-small-cell lung cancer. *J Clin Oncol.* 2012;30:3516-24.
19. Lilenbaum RC, Herndon JE 2nd, List MA, et al. Single-agent versus combination chemotherapy in advanced non-small-cell lung cancer: the cancer and leukemia group B (study 9730). *J Clin Oncol.* 2005;23:190-196.
20. Ceresoli GL, Gregorc V, Cordio S, et al. Phase II study of weekly paclitaxel as second-line therapy in patients with advanced non-small cell lung cancer. *Lung Cancer.* 2004;44:231-239.
21. Yasuda K, Igishi T, Kawasaki Y, et al. Phase II study of weekly paclitaxel in patients with non-small cell lung cancer who have failed previous treatments. *Oncology.* 2004;66:347-352.
22. Luis Paz-Ares, Alexander Luft, et al. Pembrolizumab plus Chemotherapy for Squamous Non-Small-Cell Lung Cancer. *N Engl J Med* 2018; 379:2040-2051.

## 一、治療範圍

1. 肺部腫瘤或腫瘤原發部位
2. 淋巴轉移病灶
3. 高風險淋巴轉移範圍
4. 預防性全腦照射 (小細胞肺癌經化學治療有臨床改善)

## 二、治療劑量 / 次數

非小細胞癌

手術前輔助治療

47 Gy (45~49 Gy)/25 次

手術後輔助治療

1. 殘餘腫瘤 / 腫瘤原發部位 : 62 Gy (60~64 Gy)/30~32 次或 68 Gy(66~70 Gy) /33~35 次

2. 高風險範圍 : 52 Gy (50~54 Gy)/25~27 次

3. 分次劑量 : 1.8~2.0 Gy

無手術治療 (根治性)

1. 常規治療

總劑量 : 62 Gy(60-64 Gy)/30-32 次或 68 Gy (66-70 Gy)/33-35 次

2. 立體定位高劑量分次治療

(a) 位於周邊的腫瘤 <2 cm 且與胸壁相距 >1 cm , 總劑量 : 30 Gy (28.5~31.5 Gy)/1 次

(b) 位於周邊的腫瘤與胸壁相距 >1 cm , 總劑量 : 47 Gy (45~49 Gy)/3 次或 58 Gy (55.5~60 Gy)/3 次

(c) 位於周邊的腫瘤與胸壁相距 <1 cm , 總劑量 : 50 Gy (48~52 Gy)4 次或 52 Gy (50~54 Gy)/5 次或 63 Gy (60~66Gy)/5 次

(d) 位於中央的腫瘤 , 總劑量 : 63 Gy (60~66 Gy)8 次或 67 Gy (64~70 Gy)/10 次

必須配合執行影像導航放射治療 (IGRT)

小細胞肺癌

## ◎肺部腫瘤

常規治療 總劑量 62 Gy (60~64 Gy)/30~32 次或 68 Gy(66~70 Gy) /33~35 次

## ◎預防性全腦照射

總劑量 :25 Gy (24~26 Gy)/10~13 次或 28 Gy (26~30 Gy) /13~15 次<sup>註2</sup>，每日 1 次，每週 5~6 次

<sup>註2</sup> 建議 25 Gy/10 次；若病人為廣泛期別 (extensive stage) 可考慮 20 Gy/5 次

### 三、治療方式：

使用強度調控放射治療技術，包含弧形及螺旋放射規畫，可考慮搭配影像導引治療，治療選擇可使用同步照射高與低危險部位的方式或先給予整個照射部位部份劑量照射後，再針對高危險部位加強劑量

### 四、參考文獻：

1. NCCN clinical practice guidelines in oncology- Non-small cell Lung cancer. Version 2, 2018
2. RTOG 1106 Protocol Information RTOG 1106/ACRIN 6697, Randomized Phase II Trial of Individualized Adaptive Radiotherapy Using During-Treatment FDG-PET/CT and Modern Technology in Locally Advanced Non-Small Cell Lung Cancer (NSCLC)12.2012
3. Onishi H, et al. Hypofractionated stereotactic radiotherapy (HypoFXSRT) for stage I non-small cell lung cancer: updated results of 257 patients in Japanese multi-institutional study. J Thorac Oncol 2007; 2(7 suppl 3): S94-100
4. Stephans KL, et al. A comparison of two stereotactic body radiation fractionation schedules for medically inoperable stage I non- small cell lung cancer: the Cleveland clinic experience. J Thorac Oncol 2009; 4: 976-82
5. Jin Jy, rt al. Impact of fraction size on lung radiation toxicity: hypofractionation may be beneficial in dose escalation of radiotherapy for lung cancers. Int J Radiat Oncol boil Phys 2009; Jul 3
6. NCCN clinical practice guidelines in oncology- Small cell Lung cancer. version 1, 2018
7. Paumier, A. et al. Radiotherapy in small-cell lung cancer: where should it go? Lung Cancer, 2010; 69: 133-40
8. Sorensen, M. et al. Small-cell lung cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. Ann Oncol, 2010; 21 Suppl 5: v120-5
9. ICRU Report 83:Prescribing, recording, and reporting photon-beam intensity-modulated radiation therapy (IMRT). J of the ICRU, vol 10(1), 2010