BC Cancer Protocol Summary for Adjuvant CARBOplatin and PACLitaxel Following Resection of Stage I, II and IIIA Non-small Cell Lung Cancer

***Protocol Code**:*	*LUAJPC*
***Tumour Group**:*	*Lung*
***Contact Physician**:*	*Dr. Christopher Lee*

ELIGIBILITY:

- Not eligible for LUAJNP
- Fully resected stage II or IIIA non-small cell lung cancer; fully resected stage IB non-small cell lung cancer if considered at high-risk for relapse, but uncertainty of benefit must be discussed with individual patient
- Lobectomy or pneumonectomy preferred; segmentectomy or wedge resection permitted
- Treatment to start within 60 days of definitive surgery
- ECOG performance status 0 or 1
- Prior to treatment, should consider Pneumococcal vaccine, and influenza vaccine, if appropriate for season

EXCLUSIONS:

- ECOG performance status 2 or higher

TESTS:

- Baseline: CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin, LDH
- Before each cycle: CBC & differential, platelets, creatinine
- If clinically indicated: bilirubin prior to each cycle

PREMEDICATIONS:

- **PACLitaxel must not be started unless the following drugs have been given**:
  45 minutes prior to PACLitaxel:
    - dexamethasone 20 mg IV in 50 mL NS over 15 minutes

  30 minutes prior to PACLitaxel:
    - diphenhydrAMINE 50 mg IV in NS 50 mL over 15 minutes and famotidine 20 mg IV in NS 100 mL over 15 minutes (Y-site compatible)
- Antiemetic protocol for High emetogenic chemotherapy (see protocol SCNAUSEA)

Warning: The information contained in these documents are a statement of consensus of BC Cancer professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. Use of these documents is at your own risk and is subject to BC Cancer's terms of use available at www.bccancer.bc.ca/legal.htm

TREATMENT:

Drug	Dose	BC Cancer Administration Guideline
(give PACLitaxel first)		
CARBOplatin	AUC 6 Dose = AUC x (GFR* + 25)	IV in 100 to 250 mL NS over 30 minutes
PACLitaxel	200 mg/m^2	IV in 250 to 500 mL NS over 3 hours (use non-DEHP bag and non-DEHP tubing with 0.2 micron in-line filter)

- **Repeat every 21 days x 4 cycles**

Cockcroft formula:

$$\text{GFR} = \frac{\text{N x (140 – age in years) x wt (kg)}}{\text{serum creatinine (micromol/L)}} \quad \text{N = 1.23 male, 1.04 female}$$

The estimated GFR calculated using the Cockcroft-Gault equation should be capped at 125 mL/min when it is used to calculate the initial carboplatin dose. When a nuclear renogram is available, this clearance would take precedence.

DOSE MODIFICATIONS:

1. **Hematology**

ANC (x 10^9/L)		Platelets (x 10^9/L)	Dose
greater than or equal to 1.5	and	greater than or equal to 100	100%
1.0 to less than 1.5	or	75 to less than 100	75%
less than 1.0	or	less than 100	Delay*

2. **Arthralgia and/or myalgia**: If arthralgia and/or myalgia of grade 2 (moderate) or higher is not relieved by adequate doses of NSAIDs or acetaminophen with codeine (e.g., TYLENOL #3®), a limited number of studies report a possible therapeutic benefit using:
   - predniSONE 10 mg po bid x 5 days starting 24 hours post-PACLitaxel
   - gabapentin 300 mg po on day before chemotherapy, 300 mg bid on treatment day, then 300 mg tid x 7-10 days
3. **Neuropathy**: Dose modification or discontinuation may be required (see BC Cancer Drug Manual).
4. **Renal dysfunction**: If significant increase (greater than 20%) in creatinine, repeat nuclear renogram (if available) and recalculate CARBOplatin dose using new GFR.
5. **Hepatic dysfunction**: Dose reduction may be required for PACLitaxel (see BC Cancer Drug Manual)

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PRECAUTIONS

1. **Hypersensitivity**: Reactions are common. See BC Cancer Hypersensitivity Guidelines.

mild symptoms (e.g. mild flushing, rash, pruritus)	▪ complete PACLitaxel infusion. Supervise at bedside ▪ no treatment required
moderate symptoms (e.g. moderate rash, flushing, mild dyspnea, chest discomfort, mild hypotension	▪ stop PACLitaxel infusion ▪ give IV diphenhydrAMINE 25-50 mg and IV hydrocortisone IV 100 mg ▪ after recovery of symptoms resume PACLitaxel infusion at 20 mL/hr for 5 minutes, 30 mL/hr for 5 minutes, 40 mL/hr for 5 minutes, then 60 mL/hr for 5 minutes. If no reaction, increase to full rate. ▪ if reaction recurs, discontinue PACLitaxel therapy
severe symptoms (i.e. *one* or more of respiratory distress requiring treatment, generalized urticaria, angioedema, hypotension requiring therapy)	▪ stop PACLitaxel infusion ▪ give IV antihistamine and steroid as above. Add epinephhrine or bronchodilators if indicated ▪ discontinue PACLitaxel therapy

2. **Extravasation**: PACLitaxel causes pain and may, rarely, cause tissue necrosis if extravasated. Refer to BC Cancer Extravasation Guidelines.
3. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.

Contact Dr. Christopher Lee or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.

REFERENCES:

1. Strauss GM, Herndon J, Maddaus A, et al. Randomized clinical trial of adjuvant chemotherapy with paclitaxel and carboplatin following resection in Stage IB non-small cell lung cancer (NSCLC): Report of Cancer and Leukemia Group B (CALGB) Protocol 9633. Proc Am Soc Clin Oncol 2004; abstr 7019.
2. Strauss GM, Herndon II JE, Maddaus, MA, et al. Adjuvant paclitaxel plus carboplatin compared with observation in stage IB non-small cell lunch 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: 5043-51.

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