

Regimen Monograph

[Regimen Name](#) | [Drug Regimen](#) | [Cycle Frequency](#) | [Premedication and Supportive Measures](#) | [Dose Modifications](#) | [Adverse Effects](#) | [Interactions](#) | [Drug Administration and Special Precautions](#) | [Recommended Clinical Monitoring](#) | [Administrative Information](#) | [References](#) | [Other Notes](#) | [Disclaimer](#)

A - Regimen Name

## PACL(W) Regimen

PACLitaxel (weekly)

## PACL(W)+TRAS Regimen

PACLitaxel (weekly)-Trastuzumab

**Disease Site** Breast

**Intent** Palliative

**Regimen Category** **Evidence-Informed :**

Regimen is considered appropriate as part of the standard care of patients; meaningfully improves outcomes (survival, quality of life), tolerability or costs compared to alternatives (recommended by the Disease Site Team and national consensus body e.g. pan-Canadian Oncology Drug Review, pCODR). Recommendation is based on an appropriately conducted phase III clinical trial relevant to the Canadian context OR (where phase III trials are not feasible) an appropriately sized phase II trial. Regimens where one or more drugs are not approved by Health Canada for any indication will be identified under Rationale and Use.

**Rationale and Uses** For the treatment of metastatic breast cancer

**Supplementary Public Funding** [trastuzumab](#)  
New Drug Funding Program (Trastuzumab (Biosimilar) in combination with Paclitaxel - Metastatic Breast Cancer)

[trastuzumab](#)  
New Drug Funding Program (Trastuzumab (Biosimilar) - Second Line - Metastatic Breast Cancer)

[back to top](#)

### B - Drug Regimen

<a href="#">PACLitaxel</a>	80 mg /m <sup>2</sup>	IV	Days 1, 8, 15
----------------------------	-----------------------	----	---------------

For patients with HER2 positive tumours, trastuzumab may be given concurrently with paclitaxel and then as a single agent

<a href="#">trastuzumab</a>	8 mg /kg	IV loading dose	Day 1, cycle 1 only
-----------------------------	----------	-----------------	---------------------

**THEN,**

<a href="#">trastuzumab</a>	6 mg /kg	IV maintenance dose	Every 21 days
-----------------------------	----------	---------------------	---------------

**Alternative trastuzumab schedule:**

<a href="#">trastuzumab</a>	4 mg /kg	IV loading dose	Day 1, cycle 1 only
-----------------------------	----------	-----------------	---------------------

**THEN,**

<a href="#">trastuzumab</a>	2 mg /kg	IV maintenance dose	Weekly (Q7 Days)
-----------------------------	----------	---------------------	------------------

[back to top](#)

### C - Cycle Frequency

**Paclitaxel:** REPEAT EVERY 28 DAYS until disease progression or unacceptable toxicity.

**Q3 Weekly or Weekly Trastuzumab:** See [TRAS](#) (Breast - Advanced) regimen for details.

[back to top](#)

### D - Premedication and Supportive Measures

**Antiemetic Regimen:** Low

**Other Supportive Care:**

- Trastuzumab: Refer to [Trastuzumab](#) drug monograph for full details.

Also refer to [CCO Antiemetic Recommendations](#).

**Paclitaxel:**

**Pre-medications\* (prophylaxis for infusion reaction):**

To be given 30-60 minutes prior to paclitaxel infusion.

- Dexamethasone 10 mg IV, starting in cycle 1
- Diphenhydramine 25-50 mg IV/PO
- Ranitidine 50 mg IV OR Famotidine 20 mg IV

\* Consider **discontinuing** pre-medications for paclitaxel if there was no IR in the first 2 doses.

[back to top](#)

**E - Dose Modifications**

Doses should be modified according to the protocol by which the patient is being treated.

See [TRAS](#) (Breast - Advanced) regimen for details on trastuzumab dose modifications.

**Dosage with toxicity**

Dose levels: 80 mg/m<sup>2</sup>, 70 mg/m<sup>2</sup>, 60 mg/m<sup>2</sup>. Dose re-escalations are not allowed. Discontinue treatment if toxicity recurs after 2 dose reductions.

Toxicity (Grade or Counts x 10 <sup>9</sup> /L)	Paclitaxel dose
ANC < 1.5 and/or Platelets < 100	Delay <sup>1</sup>
ANC ≤ 0.8 and/or Platelets ≤ 50	Delay <sup>1</sup> ; ↓ 1 level for next dose
Grade 2 neurotoxicity	↓ 1 level
Other Grade 2-3 non-hematological <sup>2, 3</sup> or grade 3 neurotoxicity	Delay <sup>1</sup> ; ↓ 1 level

Grade 4 non-hematological <sup>3</sup> ; more than 2 weeks delay or more than 2 dose reductions	Discontinue
---	-------------

<sup>1</sup> Delay for up to 2 weeks. Start day 1 of cycle when non-hematologic toxicities recover to ≤ grade 1, platelets ≥ 100 x 10<sup>9</sup> /L, and ANC ≥ 1.5 x 10<sup>9</sup> /L; reduce dose as per table.

<sup>2</sup> Except alopecia, fatigue and nausea. Appropriate symptom management should be provided for vomiting, diarrhea, constipation; dose modifications may not be necessary.

<sup>3</sup> Except infusion reactions. See **Management of Infusion Reactions** table below for dose modifications pertaining to infusion reactions.

### Management of Infusion-related reactions:

Also refer to the CCO guideline for detailed description of [Management of Cancer Medication-Related Infusion Reactions](#).

### Paclitaxel:

Grade	Management	Re-challenge
1 or 2	<ul style="list-style-type: none"> <li>Stop or slow the infusion rate.</li> <li>Manage the symptoms.</li> </ul> <p><b>Restart:</b></p> <ul style="list-style-type: none"> <li>After symptom resolution, restart with pre-medications ± reduced infusion rate.</li> </ul>	<ul style="list-style-type: none"> <li>Consider re-challenge with pre-medications and at a reduced infusion rate.</li> <li>After 2 subsequent IRs, consider replacing with a different taxane. Give intensified pre-medications and reduce the infusion rate.</li> <li>May consider adding oral montelukast ± oral acetylsalicylic acid.</li> </ul>
3 or 4	<ul style="list-style-type: none"> <li>Stop treatment.</li> <li>Aggressively manage symptoms.</li> </ul>	<ul style="list-style-type: none"> <li>Re-challenge is discouraged, especially if vital signs have been affected.</li> <li>Consider desensitization if therapy is necessary.</li> <li>There is insufficient evidence to recommend substitution with another taxane at re-challenge.</li> <li>High cross-reactivity rates have been reported.</li> </ul>

### **Hepatic Impairment**

For paclitaxel, patients with hepatic impairment may be at risk of toxicity, especially myelosuppression (see table for suggested dosage adjustment). No dosage adjustment required for trastuzumab.

<b>Bilirubin and/or AST/ALT</b>	<b>Dose (mg/m<sup>2</sup>)</b>
2-4 x ULN	60
>4 x ULN	40 or omit

### **Renal Impairment**

No adjustment required for paclitaxel, but may consider for patients with HIV-AIDS if creatinine  $\geq$  2 x ULN. No dosage adjustment required for trastuzumab.

### **Dosage in the Elderly**

No adjustment required. Elderly patients are more at risk for severe toxicity with paclitaxel and increased risk for cardiac dysfunction and myelosuppression with trastuzumab.

[back to top](#)

**F - Adverse Effects**

Refer to [PACLitaxel](#) ( $\pm$  [trastuzumab](#)) drug monograph(s) for additional details of adverse effects.

See [TRAS](#) (Breast - Advanced) regimen for details on trastuzumab adverse effects.

**Paclitaxel:**

Very common ( $\geq 50\%$ )	Common (25-49%)	Less common (10-24%)	Uncommon ( $< 10\%$ ), but may be severe or life-threatening
<ul style="list-style-type: none"> <li>• Alopecia (may be permanent)</li> <li>• Musculoskeletal pain (may be severe)</li> <li>• Neuropathy (may be severe, includes cranial nerves and autonomic)</li> </ul>	<ul style="list-style-type: none"> <li>• Diarrhea</li> <li>• Nausea/vomiting</li> <li>• Myelosuppression +/- infection and bleeding (may be severe)</li> <li>• Hypersensitivity (may be severe)</li> </ul>	<ul style="list-style-type: none"> <li>• Hypotension</li> <li>• ECG changes</li> <li>• Mucositis</li> <li>• Edema</li> <li>• Fatigue</li> <li>• <math>\uparrow</math> LFTs (may be severe)</li> </ul>	<ul style="list-style-type: none"> <li>• Arrhythmia</li> <li>• Arterial thromboembolism</li> <li>• Venous thromboembolism</li> <li>• Cardiotoxicity</li> <li>• Injection site reactions</li> <li>• Rash</li> <li>• GI obstruction</li> <li>• GI perforation</li> <li>• Pancreatitis</li> <li>• Secondary malignancy</li> <li>• Encephalopathy</li> <li>• Seizures</li> <li>• Cystoid macular edema</li> <li>• Pneumonitis</li> <li>• Typhlitis</li> <li>• Radiation recall</li> </ul>

[back to top](#)

## G - Interactions

Refer to [PACLitaxel](#) ( $\pm$  [trastuzumab](#)) drug monograph(s) for additional details.

See [TRAS](#) (Breast - Advanced) regimen for details on trastuzumab drug interactions.

- Caution with concurrent use of paclitaxel with CYP2C8/3A4 substrates, inhibitors and inducers.

[back to top](#)

## H - Drug Administration and Special Precautions

Refer to [PACLitaxel](#) ( $\pm$  [trastuzumab](#)) drug monograph(s) for additional details.

See [TRAS](#) (Breast - Advanced) regimen for details on trastuzumab Drug Administration and Special Precautions.

### Paclitaxel:

#### Administration

- In order to minimize patients' exposure to DEHP leaching from PVC bags or sets, use polyolefin or polypropylene infusion bags and polyethylene-lined administration sets (with a 0.22 micron in-line filter).
- Dilute in Normal Saline or 5% Dextrose, in a final concentration of 0.3-1.2 mg/mL and infuse over 3 hours.
- For weekly dosing, may be infused over 1 hour - mix in 250mL bag as above (not approved by manufacturer).
- Extended infusion of paclitaxel is not recommended as primary prophylaxis to reduce paclitaxel IRs.
- Excessive shaking, agitation, or vibration may induce precipitation and should be avoided.
- Precipitation may rarely occur with infusions longer than 3 hours.

Also refer to the CCO guideline for detailed description of [Management of Cancer Medication-Related Infusion Reactions](#).

**Contraindications:**

- Patients with a history of severe hypersensitivity reactions to paclitaxel or other drugs formulated in Cremophor EL (polyethoxylated castor oil)
- Patients with severe baseline neutropenia ( $<1.5 \times 10^9/L$ ;  $< 1 \times 10^9/L$  for patients with AIDS-related Kaposi's)

**Other Warning/Precautions:**

- Paclitaxel contains ethanol, and is administered with agents such as antihistamines which cause drowsiness. Patients should be cautioned regarding driving and the use of machinery.

**Pregnancy/Lactation:**

- Paclitaxel is not recommended for use in pregnancy.
- Adequate contraception should be used by both sexes during treatment, and for at least **6 months** after the last dose.
- Breastfeeding is not recommended.
- Fertility effects: Yes

[back to top](#)

## I - Recommended Clinical Monitoring

Also refer to [TRAS](#) (Breast - Advanced) regimen for details

Treating physicians may decide to monitor more or less frequently for individual patients but should always consider recommendations from the product monograph.

### Recommended Clinical Monitoring

- CBC; Baseline and at each visit
- Liver and renal function tests; Baseline and at each visit
- Blood pressure and pulse rate monitoring during infusion. Cardiac monitoring with prior arrhythmia; Baseline and as clinically indicated



- Clinical toxicity assessment of bleeding, infection, musculoskeletal effects, neurologic (sensory) effects, hypersensitivity and flu-like symptoms; At each visit
- Grade toxicity using the current [NCI-CTCAE \(Common Terminology Criteria for Adverse Events\) version](#)

#### Suggested Clinical Monitoring

- CBC; As clinically indicated
- Liver function tests; As clinically indicated
- Renal function tests (AIDS-related Kaposi's sarcoma); Baseline and before each dose

[back to top](#)

### **J - Administrative Information**

#### **Approximate Patient Visit**

**PACL(W)** 2 hours

**PACL(W)+TRAS** First cycle: 3.5 hours; Subsequent cycles: 2.5 cycles

#### **Pharmacy Workload (average time per visit)**

**PACL(W)** 18.663 minutes

**PACL(W)+TRAS** 27.752 minutes

#### **Nursing Workload (average time per visit)**

**PACL(W)** 39.833 minutes

**PACL(W)+TRAS** 55.667 minutes

[back to top](#)

### **K - References**

Paclitaxel drug monograph, Cancer Care Ontario.

Seidman AD, Berry D, Cirrincione C, et al. Randomized phase III trial of weekly compared with every-3-weeks paclitaxel for metastatic breast cancer, With trastuzumab for all HER-2 overexpressors and random assignment to trastuzumab or not in HER-2 nonoverexpressors: final results of cancer and leukemia group B protocol 9840. J Clin Oncol 2008; 26:1642-9.

Seidman A D, Fornier MN, Esteva FJ, et al. Weekly trastuzumab and paclitaxel therapy for

---

metastatic breast cancer with analysis of efficacy by HER2 immunophenotype and gene amplification. J Clin Oncol 2001; 19(10): 2587-95.

## August 2021 Modified Rationale and Uses section

[back to top](#)

### M - Disclaimer

#### **Regimen Abstracts**

*A Regimen Abstract is an abbreviated version of a Regimen Monograph and contains only top level information on usage, dosing, schedule, cycle length and special notes (if available). It is intended for healthcare providers and is to be used for informational purposes only. It is not intended to constitute or be a substitute for medical advice, and all uses of the Regimen Abstract are subject to clinical judgment. Such information is provided on an “as-is” basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information’s quality, accuracy, currency, completeness, or reliability, and Cancer Care Ontario disclaims all liability for the use of this information, and for any claims, actions, demands or suits that arise from such use.*

*Information in regimen abstracts is accurate to the extent of the ST-QBP regimen master listings, and has not undergone the full review process of a regimen monograph. Full regimen monographs will be published for each ST-QBP regimen as they are developed.*

#### **Regimen Monographs**

Refer to the [New Drug Funding Program](#) or [Ontario Public Drug Programs](#) websites for the most up-to-date public funding information.

*The information set out in the drug monographs, regimen monographs, appendices and symptom management information (for health professionals) contained in the Drug Formulary (the "Formulary") is intended for healthcare providers and is to be used for informational purposes only. The information is not intended to cover all possible uses, directions, precautions, drug interactions or adverse effects of a particular drug, nor should it be construed to indicate that use of a particular drug is safe, appropriate or effective for a given condition. The information in the Formulary is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. All uses of the Formulary are subject to clinical judgment and actual prescribing patterns may not follow the information provided in the Formulary.*

*The format and content of the drug monographs, regimen monographs, appendices and symptom management information contained in the Formulary will change as they are reviewed and revised on a periodic basis. The date of last revision will be visible on each page of the monograph and regimen. Since standards of usage are constantly evolving, it is advised that the Formulary not be used as the sole source of information. It is strongly recommended that original references or product monograph be consulted prior to using a chemotherapy regimen for the first time.*

*Some Formulary documents, such as the medication information sheets, regimen information sheets and symptom management information (for patients), are intended for patients. Patients should always consult with their healthcare provider if they have questions regarding any information set out in the Formulary documents.*

*While care has been taken in the preparation of the information contained in the Formulary, such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability.*

*CCO and the Formulary's content providers shall have no liability, whether direct, indirect, consequential, contingent, special, or incidental, related to or arising from the information in the Formulary or its use thereof, whether based on breach of contract or tort (including negligence), and even if advised of the possibility thereof. Anyone using the information in the Formulary does so at his or her own risk, and by using such information, agrees to indemnify CCO and its content providers from any and all liability, loss, damages, costs and expenses (including legal fees and expenses) arising from such person's use of the information in the Formulary.*

[back to top](#)