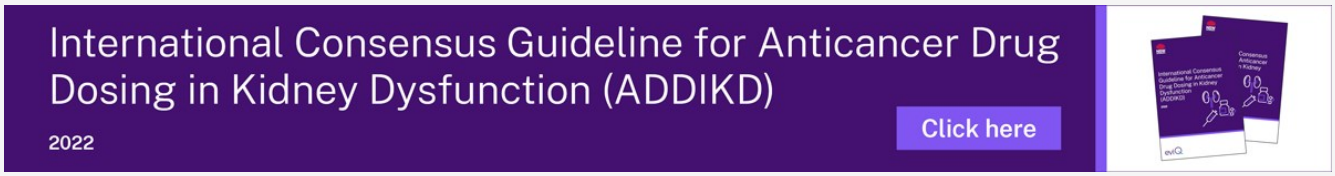
Breast metastatic PACLitaxel weekly and trastuzumab three weekly

ID: 167 v.10 **Endorsed** Essential Medicine List

Check for clinical trials in this patient group. Link to Australian Clinical Trials website

The anticancer drug(s) in this protocol may have been included in the ADDIKD guideline. Dose recommendations in kidney dysfunction have yet to be updated to align with the ADDIKD guideline. Recommendations will be updated once the individual protocol has been evaluated by the reference committee. For further information refer to the ADDIKD guideline. To assist with calculations, use the eviQ Estimated Glomerular Filtration Rate (eGFR) calculator.



Related pages:

- Breast metastatic trastuzumab three weekly
- Breast metastatic DOCEtaxel and trastuzumab three weekly
- Breast trastuzumab subcutaneous

Treatment schedule - Overview

Cycle 1

Drug	Dose	Route	Day
PACLitaxel	80 mg/m^2	IV infusion	1, 8, 15
Trastuzumab	8 mg/kg (loading dose only)	IV infusion *	1

Cycle 2 and further cycles

Drug	Dose	Route	Day
PACLitaxel	80 mg/m^2	IV infusion	1, 8, 15
Trastuzumab	6 mg/kg (subsequent doses)	IV infusion *	1

*Trastuzumab is available as a subcutaneous formulation administered at a dose of 600 mg every three weeks. Subcutaneous trastuzumab has a similar safety profile to intravenous trastuzumab and is non-inferior in terms of pharmacokinetic profile and efficacy and therefore is a valid alternative route of administration compared to standard intravenous trastuzumab. Link to Breast trastuzumab subcutaneous protocol

Frequency: 21 days

Cycles: Continuous until disease progression or unacceptable toxicity

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Drug status: Paclitaxel is on the PBS general schedule

Trastuzumab is PBS authority.

Trastuzumab is available in **150 mg** and **60 mg** vials.

Cost: ~ $560 per cycle

Treatment schedule - Detail

The supportive therapies (e.g. antiemetics, premedications, etc.), infusion times, diluents, volumes and routes of administration, if included, are listed as defaults. They may vary between institutions and can be substituted to reflect individual institutional policy.

*Antiemetics if included in the treatment schedule are based upon recommendations from national and international guidelines. These are **defaults only** and may be substituted to reflect individual institutional policy. Select here for recommended doses of alternative antiemetics.*

Cycle 1

Day 1		
Loratadine	10 mg (PO)	60 minutes before chemotherapy
Dexamethasone	8 mg (PO)	60 minutes before chemotherapy
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)
Trastuzumab	8 mg/kg (IV infusion)	in 250 mL sodium chloride 0.9% over 90 minutes (loading dose; cycle 1 only)*

Day 8		
Loratadine	10 mg (PO)	60 minutes before chemotherapy
Dexamethasone	4 mg (PO)	60 minutes before chemotherapy
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)

Day 15		
Loratadine	10 mg (PO)	60 minutes before chemotherapy
Metoclopramide	10 mg (PO)	one tablet when necessary (maximum of 30 mg/24 hours, up to 5 days)
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)

Cycle 2

Day 1		
Loratadine	10 mg (PO)	60 minutes before chemotherapy
Metoclopramide	10 mg (PO)	one tablet when necessary (maximum of 30 mg/24 hours, up to 5 days)
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)
Trastuzumab	6 mg/kg (IV infusion)	in 250 mL sodium chloride 0.9% over 30 minutes (if the initial loading dose was well tolerated)*

Day 8 and 15		
Metoclopramide	10 mg (PO)	one tablet when necessary (maximum of 30 mg/24 hours, up to 5 days)
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)

Cycle 3 and further cycles

Day 1		
Metoclopramide	10 mg (PO)	one tablet when necessary (maximum of 30 mg/24 hours, up to 5 days)

Day 1		
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)
Trastuzumab	6 mg/kg (IV infusion)	in 250 mL sodium chloride 0.9% over 30 minutes (if the initial loading dose was well tolerated)*

Day 8 and 15		
Metoclopramide	10 mg (PO)	one tablet when necessary (maximum of 30 mg/24 hours, up to 5 days)
PACLitaxel	80 mg/m^2 (IV infusion)	in 250 mL sodium chloride 0.9% over 60 minutes (in non-PVC containers only)

*Trastuzumab is available as a subcutaneous formulation administered at a dose of 600 mg every three weeks. Subcutaneous trastuzumab has a similar safety profile to intravenous trastuzumab and is non-inferior in terms of pharmacokinetic profile and efficacy and therefore is a valid alternative route of administration compared to standard intravenous trastuzumab. Link to Breast trastuzumab subcutaneous protocol

Frequency: 21 days

Cycles: Continuous until disease progression or unacceptable toxicity

Indications and patient population

Indication:

- HER-2 positive metastatic breast cancer
  - HER-2 positive as demonstrated by in situ hybridisation (ISH)

Caution:

- left ventricular ejection fraction (LVEF) of 45% or less.

Clinical information

Venous access required	IV cannula (IVC) or central venous access device (CVAD) is required to administer this treatment. Read more about central venous access device line selection
Hypersensitivity/infusion related reaction	High risk with paclitaxel. Although hypersensitivity with trastuzumab is common, severe hypersensitivity reactions are uncommon. Use with caution in patients with dyspnoea at rest from pulmonary/cardiac conditions as increased risk of infusion related symptoms.
Premedication	The product information for paclitaxel recommends a higher dose of dexamethasone to be used. However, many clinicians use a reducing premedication regimen with an anecdotally acceptable rate of hypersensitivity reactions (HSRs). Please refer to the treatment schedule for suggested premedication regimen. This may be substituted to reflect institutional policy. Read more about premedication for prophylaxis of taxane hypersensitivity reactions (infusion related reactions and anaphylaxis)

Emetogenicity LOW	Suggested default antiemetics have been added to the treatment schedule, and may be substituted to reflect institutional policy. Ensure that patients also have sufficient antiemetics for breakthrough emesis: Metoclopramide 10 mg three times a day when necessary (maximum of 30 mg/24 hours, up to 5 days) OR Prochlorperazine 10 mg PO every 6 hours when necessary. Read more about preventing anti-cancer therapy induced nausea and vomiting
Cardiac toxicity associated with HER-2 directed agents	Patients receiving HER-2 directed agents are at an increased risk of cardiotoxicity e.g. asymptomatic decrease in the left ventricular ejection fraction (LVEF) and congestive heart failure (CHF). In patients with a LVEF less than 45% and/or symptomatic heart failure HER-2 directed therapy should be avoided, except in the metastatic setting when breast cancer is life-threatening and where a cardiologist is also involved. Concurrent anthracycline and HER-2 directed therapy is not recommended for extended periods of time. Baseline and 3 monthly cardiac function tests are required during treatment. In the metastatic setting, after the first 12 months of therapy, if there are no cardiac complications, the frequency of cardiac assessments may be reduced at the discretion of the treating clinician unless there has been recent exposure to anthracyclines. Read more about cardiac toxicity associated with HER-2 targeted agents
Peripheral neuropathy	Assess prior to each treatment. If a patient experiences grade 2 or greater peripheral neuropathy, a dose reduction, delay, or omission of treatment may be required; review by medical officer before commencing treatment. Read more about peripheral neuropathy Link to chemotherapy-induced peripheral neuropathy screening tool
Biosimilar drug	Read more about biosimilar drugs on the Biosimilar Awareness Initiative page
Blood tests	FBC, EUC and LFTs at baseline, prior to each treatment for 4 weeks, then monthly and as clinically indicated.
Hepatitis B screening and prophylaxis	Routine screening for HBsAg and anti-HBc is NOT usually recommended for patients receiving this treatment. Read more about hepatitis B screening and prophylaxis in cancer patients requiring cytotoxic and/or immunosuppressive therapy
Vaccinations	Live vaccines are contraindicated in cancer patients receiving immunosuppressive therapy and/or who have poorly controlled malignant disease. Refer to the recommended schedule of vaccination for immunocompromised patients, as outlined in the Australian Immunisation Handbook. Read more about COVID-19 vaccines and cancer.
Fertility, pregnancy and lactation	Cancer treatment can have harmful effects on fertility and this should be discussed with all patients of reproductive potential prior to commencing treatment. There is a risk of foetal harm in pregnant women. A pregnancy test should be considered prior to initiating treatment in females of reproductive potential if sexually active. It is important that all patients of reproductive potential use effective contraception whilst on therapy and after treatment finishes. Effective contraception methods and adequate contraception timeframe should be discussed with all patients of reproductive potential. Possibility of infant risk should be discussed with breastfeeding patients. Read more about the effect of cancer treatment on fertility

Dose modifications

Evidence for dose modifications is limited, and the recommendations made on eviQ are intended as a guide only. They are generally conservative with an emphasis on safety. Any dose modification should be based on clinical judgement, and the

individual patient's situation including but not limited to treatment intent (curative vs palliative), the anti-cancer regimen (single versus combination therapy versus chemotherapy versus immunotherapy), biology of the cancer (site, size, mutations, metastases), other treatment related side effects, additional co-morbidities, performance status and patient preferences.Suggested dose modifications are based on clinical trial findings, product information, published guidelines and reference committee consensus . The dose reduction applies to each individual dose and not to the total number of days or duration of treatment cycle unless stated otherwise. Non-haematological gradings are based on Common Terminology Criteria for Adverse Events (CTCAE) unless otherwise specified. Renal and hepatic dose modifications have been standardised where possible. For more information see dosing considerations & disclaimer .

The dose recommendations in kidney dysfunction (i.e.renal impairment) displayed may not reflect those in the ADDIKD guideline and have been included for historical reference only. Recommendations will be updated once the individual protocol has been evaluated by the reference committee, with this version of the protocol then being archived. Clinicians are expected to refer to the ADDIKD guideline prior to prescribing in kidney dysfunction.
International Consensus Guideline for Anticancer Drug Dosing in Kidney Dysfunction (ADDIKD).

Note: all dose reductions are calculated as a percentage of the starting dose.

Haematological toxicity	
ANC x 10^9/L (pre-treatment blood test)	
1.0 to less than 1.5	Refer to local institutional guidelines; it is the view of the expert clinicians that treatment should continue if patient is clinically well
0.5 to less than 1.0	Delay treatment until recovery
less than 0.5	Delay treatment until recovery and consider reducing paclitaxel by 25% for subsequent cycles
Febrile neutropenia	Delay treatment until recovery and consider reducing paclitaxel by 25% for subsequent cycles
Platelets x 10^9/L (pre-treatment blood test)	
75 to less than 100	The general recommendation is to delay, however if the patient is clinically well it may be appropriate to continue treatment; refer to treating team and/or local institutional guidelines
50 to less than 75	Delay treatment until recovery
less than 50	Delay treatment until recovery and consider reducing paclitaxel by 25% for subsequent cycles

Renal impairment
No dose modifications necessary

Hepatic impairment	
Hepatic dysfunction	
Mild	Reduce paclitaxel by 25%
Moderate	Reduce paclitaxel by 50%
Severe	Omit paclitaxel

Peripheral neuropathy	
Grade 2 which is present at the start of the next cycle	Reduce paclitaxel by 25%; If persistent, reduce paclitaxel by 50%
Grade 3 or Grade 4	Omit paclitaxel

Mucositis and stomatitis	
Grade 2	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for

Mucositis and stomatitis	
	subsequent cycles as follows: 1st occurrence: No dose reduction 2nd occurrence: Reduce paclitaxel by 25% 3rd occurrence: Reduce paclitaxel by 50% 4th occurrence: Omit paclitaxel
Grade 3 or Grade 4	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for subsequent cycles as follows: 1st occurrence: Reduce paclitaxel by 50% 2nd occurrence: Omit paclitaxel

Cardiac toxicity	
Consider referral to a cardiologist if any of the following occur	
LVEF less than 45%	Delay trastuzumab. Repeat LVEF assessment within 3 weeks Consider discontinuing trastuzumab if LVEF less than 45% is confirmed
Symptomatic heart failure	Consider discontinuing trastuzumab

Missed doses of trastuzumab	
By 6 weeks or less	No dose modification necessary Give as soon as possible, i.e. do not wait until the next planned cycle
By more than 6 weeks	Reload trastuzumab with a dose of 8 mg/kg Subsequent doses of 6 mg/kg should then be given every 3 weeks, according to the previous cycle

Interactions

Drug interactions in eviQ protocols are under review and being updated to align with current literature. Further site-wide updates and changes will occur in due course. ***References & Disclaimer***

The drug interactions shown below are not an exhaustive list. For a more comprehensive list and for detailed information on specific drug interactions and clinical management, please refer to the specific drug product information and the following key resources:

- *MIMS - interactions tab (includes link to a CYP-450 table) (login required)*
- *Australian Medicines Handbook (AMH) – interactions tab (login required)*
- *Micromedex Drug Interactions (login required)*
- *Cancer Drug Interactions*
- *Cytochrome P450 Drug Interactions*

Paclitaxel		
	Interaction	**Clinical management**
CYP3A4 inhibitors (e.g. aprepitant, azole antifungals, clarithromycin, erythromycin, grapefruit juice, ritonavir etc.)	Increased toxicity of paclitaxel possible due to reduced clearance	Monitor for paclitaxel toxicity
CYP3A4 inducers (e.g. carbamazepine, phenytoin, phenobarbitone, rifampicin, St John's wort etc.)	Reduced efficacy of paclitaxel possible due to increased clearance	Monitor for decreased clinical response to paclitaxel
CYP2C8 inhibitors (e.g. pazopanib, lapatinib, gemfibrozil, montelukast etc.)	Increased toxicity of paclitaxel possible due to reduced clearance	Monitor for paclitaxel toxicity
Metronidazole, disulfiram	Intolerance reaction to alcohol content of diluent of intravenous paclitaxel	Avoid combination
Doxorubicin	Administration schedule can influence systemic exposure to doxorubicin	Minimise by administering doxorubicin first in regimens using the combination
Cisplatin	Administration schedule may influence the development of myelosuppression	Minimise toxicity by administering paclitaxel first in regimens using the combination

Trastuzumab		
	Interaction	**Clinical management**
Cardiotoxic drugs (e.g. anthracyclines cyclophosphamide)	Additive cardiotoxicity	Monitor cardiac function closely in patients who have previously been treated with cumulatively cardiotoxic drugs
Paclitaxel	Increased toxicity of trastuzumab possible due to reduced clearance	Monitor for trastuzumab toxicity (esp. cardiotoxicity)

General		
	Interaction	**Clinical management**
Warfarin	Anti-cancer drugs may alter the anticoagulant effect of warfarin.	Monitor INR regularly and adjust warfarin dosage as appropriate; consider alternative anticoagulant.
Direct oral anticoagulants (DOACs) e.g. apixaban, rivaroxaban, dabigatran	Interaction with both CYP3A4 and P-gp inhibitors /inducers. DOAC and anti-cancer drug levels may both be altered, possibly leading to loss of efficacy or toxicity (i.e. increased bleeding).	Apixaban: avoid concurrent use with strong CYP3A4 and P-gp inhibitors. If treating VTE, avoid use with strong CYP3A4 and P-gp inducers. Rivaroxaban: avoid concurrent use with strong CYP3A4 and P-gp inhibitors. Dabigatran: avoid combination with strong P-gp inducers and inhibitors. If concurrent use is unavoidable, monitor closely for efficacy/toxicity of both drugs.
Digoxin	Anti-cancer drugs can damage the lining of the intestine; affecting the absorption of digoxin.	Monitor digoxin serum levels; adjust digoxin dosage as appropriate.
Antiepileptics	Both altered antiepileptic and anti-cancer drug levels may occur, possibly leading to loss of efficacy or toxicity.	Where concurrent use of an enzyme-inducing antiepileptic cannot be avoided, monitor antiepileptic serum levels for toxicity, as well as seizure frequency for efficacy; adjust dosage as appropriate. Also monitor closely for efficacy of the anti-cancer therapy.
Antiplatelet agents and NSAIDs	Increased risk of bleeding due to treatment related thrombocytopenia.	Avoid or minimise combination. If combination deemed essential, (e.g. low dose aspirin for ischaemic heart disease) monitor for signs of bleeding.
Serotonergic drugs, including selective serotonin reuptake inhibitors (SSRIs e.g. paroxetine) and serotonin noradrenaline reuptake inhibitors (SNRIs e.g. venlafaxine)	Increased risk of serotonin syndrome with concurrent use of 5-HT3 receptor antagonists (e.g. palonosetron, ondansetron, granisetron, tropisetron, dolasetron, etc.)	Avoid combination. If combination is clinically warranted, monitor for signs and symptoms of serotonin syndrome (e.g. confusion, agitation, tachycardia, hyperreflexia). For more information link to TGA Medicines Safety Update
Vaccines	Diminished response to vaccines and increased risk of infection with live vaccines.	Live vaccines (e.g. BCG, MMR, zoster and varicella) are contraindicated in patients on immunosuppressive therapy. Use with caution in patients on non-immunosuppressive therapy. For more information; refer to the recommended schedule of vaccination for cancer patients, as outlined in the Australian Immunisation Handbook

Administration

eviQ provides safe and effective instructions on how to administer cancer treatments. However, eviQ does not provide every treatment delivery option, and is unable to provide a comprehensive list of cancer treatment agents and their required IV line giving set/filter. There may be alternative methods of treatment administration, and alternative supportive treatments that are also appropriate. Please refer to the individual

product information monographs via the TGA website for further information.

Day 1

Approximate treatment time: 3 hours (initial); 2 hours (subsequent)

Safe handling and waste management

Safe administration

General patient assessment prior to each day of treatment.

Peripheral neuropathy assessment tool

Any toxicity grade 2 or greater may require dose reduction, delay or omission of treatment and review by medical officer before commencing treatment.

Prime required IV lines with sodium chloride 0.9%:

- low sorbing IV giving set with 0.22 micron filter must be used for paclitaxel
- attach a second IV line via a luer lock connector as close as possible to the site of injection
  - this may be required in case of a hypersensitivity reaction.

Insert IV cannula or access TIVAD or CVAD.

Pre treatment medication

Verify taxane premedication taken or administer as prescribed.

Verify antiemetics taken or administer as prescribed.

Chemotherapy - Time out

Paclitaxel

Administer paclitaxel (irritant with vesicant properties):

- via controlled IV infusion over 60 minutes
- flush with ~ 100 mL of sodium chloride 0.9%
- observe for hypersensitivity reactions.

Stop infusion at first sign of reaction:

- if symptoms are mild and resolve when infusion is stopped, consider recommencing infusion after review by medical officer at a slower rate
- for severe reactions seek medical assistance immediately and do not restart infusion
- hypersensitivity reactions are more common during the first 2 cycles in the first 30 minutes.

Trastuzumab

- Trastuzumab is incompatible with glucose solutions. Ensure IV administration sets are flushed with sodium chloride 0.9% pre and post administration.
- Trastuzumab may be administered before or after chemotherapy.

Initial infusion - administer trastuzumab:

- via IV infusion over 90 minutes
- observe patient for fever and chills or other infusion-related symptoms
- flush with ~50 mL of sodium chloride 0.9%
- stop infusion at first sign of reaction:
  - if symptoms are mild and resolve when infusion is stopped, consider recommencing infusion after review by medical officer at a slower rate
  - for severe reactions seek medical assistance immediately and do not restart infusion
- educate the patient about the possibility of delayed infusion-related symptoms.

Subsequent infusions - administer trastuzumab:

- if no previous hypersensitivity reaction administer via IV infusion over 30 minutes

- observe patient for fever and chills or other infusion-related symptoms
- flush with ~50 mL of sodium chloride 0.9%
- stop infusion at first sign of reaction:
  - if symptoms are mild and resolve when infusion is stopped, consider recommencing infusion after review by medical officer at a slower rate.
  - for severe reactions seek medical assistance immediately and do not restart infusion
- educate the patient about the possibility of delayed infusion-related symptoms.

Remove IV cannula and/or deaccess TIVAD or CVAD.

Continue safe handling precautions until 7 days after completion of drug(s)

Day 8 and 15

Approximate treatment time: 90 minutes

Safe handling and waste management

Safe administration

General patient assessment prior to each day of treatment.

Peripheral neuropathy assessment tool

Any toxicity grade 2 or greater may require dose reduction, delay or omission of treatment and review by medical officer before commencing treatment.

Prime required IV lines with sodium chloride 0.9%:

- low sorbing IV giving set with 0.22 micron filter must be used for paclitaxel
- attach a second IV line via a luer lock connector as close as possible to the site of injection
  - this may be required in case of a hypersensitivity reaction.

Insert IV cannula or access TIVAD or CVAD.

Pre treatment medication

Verify taxane premedication taken or administer as prescribed.

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Chemotherapy - Time out

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Administer paclitaxel (irritant with vesicant properties):

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- hypersensitivity reactions are more common during the first 2 cycles in the first 30 minutes.

Remove IV cannula and/or deaccess TIVAD or CVAD.

Continue safe handling precautions until 7 days after completion of drug(s)

Discharge information

Antiemetics

- Antiemetics as prescribed.

Premedication

- Premedication for next cycle of chemotherapy.

Patient information

- Ensure patient receives patient information sheet.

Side effects

The side effects listed below are not a complete list of all possible side effects for this treatment. Side effects are categorised into the approximate onset of presentation and should only be used as a guide.

Immediate (onset hours to days)	
Hypersensitivity reaction	Anaphylaxis and infusion related reactions can occur with this treatment. Read more about hypersensitivity reaction Read more about premedication for prophylaxis of taxane hypersensitivity reactions
Flu-like symptoms	
Nausea and vomiting	Read more about prevention of treatment induced nausea and vomiting
Taste and smell alteration	Read more about taste and smell changes

Early (onset days to weeks)	
Neutropenia	Abnormally low levels of neutrophils in the blood. This increases the risk of infection. Any fever or suspicion of infection should be investigated immediately and managed aggressively. Read more about immediate management of neutropenic fever
Thrombocytopenia	A reduction in the normal levels of functional platelets, increasing the risk of abnormal bleeding. Read more about thrombocytopenia
Fatigue	Read more about fatigue
Oral mucositis	Erythematous and ulcerative lesions of the gastrointestinal tract (GIT). It commonly develops following chemotherapy, radiation therapy to the head, neck or oesophagus, and high dose chemotherapy followed by a blood and marrow transplant (BMT). Read more about oral mucositis
Arthralgia and myalgia	Generalised joint pain or and/or stiffness and muscle aches, often worse upon waking or after long periods of inactivity. Can improve with movement. May be mild or severe, intermittent or constant and accompanied by inflammation. Read more about arthralgia and myalgia
Peripheral neuropathy	Typically symmetrical sensory neuropathy, affecting the fingers and toes, sometimes progressing to the hands and feet. It is associated with several classes of anti-cancer drugs. These include taxanes, platinum-based compounds, vinca alkaloids and some drugs used to treat multiple myeloma. Read more about peripheral neuropathy
Diarrhoea	Read more about treatment induced diarrhoea
Skin rash	Anti-cancer drugs can cause a number of changes in the skin with maculo-papular rash the most common type of drug-induced skin reaction. Read more about skin rash

Late (onset weeks to months)	
Anaemia	Abnormally low levels of red blood cells (RBCs) or haemoglobin in the blood. Read more about anaemia
Alopecia	Hair loss may occur from all parts of the body. Patients can also experience mild to moderate discomfort of the hair follicles, and rarely pain as the hair is falling out. Read more about alopecia
Nail changes	Hyperpigmentation, paronychia, onycholysis, splinter haemorrhage, pyogenic granuloma formation, subungal haematoma and subungal hyperkeratosis are some of the nail changes associated with anti-cancer drugs. Read more about nail toxicities
Pulmonary toxicity	Pulmonary toxicity may include damage to the lungs, airways, pleura and pulmonary circulation. Read more about pulmonary toxicity associated with anti-cancer drugs

Delayed (onset months to years)	
Menopausal symptoms	Irregular or absent periods, hot flushes, mood swings, sleep disturbance, night sweats, vaginal dryness, decreased libido and dyspareunia. This is caused by ovarian failure and may be temporary or permanent.
Cardiotoxicity	Cardiotoxicity is a well recognised complication of HER-2 directed agents (e.g. trastuzumab, trastuzumab emtansine, pertuzumab). Mechanistically distinct from anthracycline-induced cardiotoxicity, it typically manifests as an asymptomatic decrease in the left ventricular ejection fraction (LVEF) and less commonly as congestive heart failure (CHF). Read more about cardiac toxicity associated with HER-2 targeted agents

Evidence

The rationale for weekly paclitaxel in the treatment of breast cancer is that more frequent delivery of more moderate doses may achieve greater efficacy than larger doses given less often through more sustained exposure of dividing tumour cells to cytotoxic drugs.

Weekly paclitaxel has been used successfully in the treatment of advanced breast cancer, as a single agent therapy, in combination therapy, with radiation therapy and with immunomodulating drugs, such as trastuzumab. Many of the patients in these studies have received previous chemotherapy regimens. Nevertheless, response rates of up to 86% have been achieved with weekly paclitaxel therapy, up to 87% with combination therapy and up to 100% combined with radiation therapy. Paclitaxel given in combination with trastuzumab has shown response rates of 50 to 82% in patients with HER2-positive tumours.

Paclitaxel is associated with moderate toxicity. Its main dose limiting toxicities are neutropenia and peripheral neuropathy, but these are generally manageable

The evidence for the above regimen comes from a phase II multicentre trial conducted by Perez et al to determine the efficacy and safety of weekly paclitaxel 80 mg/m^2 in metastatic breast cancer.[1]

A total of 212 patients were enrolled into the study; 90% had received prior chemotherapy.

The primary end point was response rate and secondary end points included time to progression and overall survival.

Weekly paclitaxel versus 3 weekly paclitaxel, with trastuzumab in metastatic Breast Cancer[2]

The Cancer and Leukaemia Group B (CALGB) conducted a randomised phase III trial (CALGB 9840) to determine whether weekly paclitaxel (100 mg/m^2 initially, modified to 80 mg/m^2 after initial weeks of therapy) is more effective and less toxic than 3 weekly paclitaxel (175 mg/m^2). Trastuzumab, having demonstrated improved outcomes of paclitaxel therapy for human epidermal growth factor receptor-2 (HER-2) positive patients, was subsequently incorporated into the trial.

A total of 577 patients were enrolled into CALGB 9840 trial. An additional 158 patients from the CALBG 9342 trial bringing the combined sample to 735, were included in the analysis. The primary end point was response rate (RR); secondary end points were time to progression (TTP), overall survival (OS) and toxicity.

One of the main differences of the 2 trials was that only 16.5% patients in CALBG 9840 trial received prior chemotherapy compared

with 75% in CALBG 9342. This has the potential to bias the results in favour of the weekly schedule.

Efficacy

Perez 2001

After a median follow-up of 336 days, the overall response rate was 21.5%, with 41.8% of patients having disease stabilisation. Median time to progression was 4.7 months and overall survival was 12.8 months.[1]

CALGB 9840

The table below summarises the RR of the combined sample (CALGB 9840 + CALGB 9342) and the limited sample (CALGB 9840).[2]

Response[2]

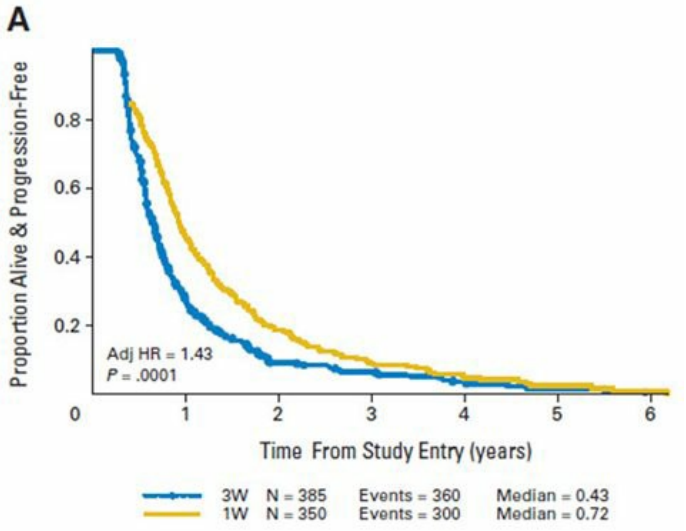
Table 3. Tumor Response

Patient Population	Comparison	No. of Patients	Response (%)	95% CI for Response	OR*	95% CI for OR	Unadjusted χ^2 P
All patients (combined)	3-weekly	383	29	25 to 34	1.75	1.28 to 2.37	.0004
	Weekly	346	42	37 to 47			
All patients (limited)	3-weekly	225	35	28 to 41	1.36	0.96 to 1.93	.083
	Weekly	346	42	37 to 47			
HER-2 negative (limited)	3-weekly	94	24	16 to 34	2.28	1.27 to 4.08	.0053
	Weekly	132	42	34 to 51			
HER-2 negative (limited)	No trastuzumab	114	32	23 to 41	1.35	0.78 to 2.34	.28
	Trastuzumab	112	38	29 to 48			
HER-2 positive (limited)	3-weekly	76	58	46 to 69	0.89	0.49 to 1.63	.71
	Weekly	98	55	45 to 65			

Abbreviations: OR, odds ratio; 3-weekly, every 3 weeks; HER-2, human epidermal growth factor receptor 2.
*Unadjusted OR; the ratio of the odds of tumor response in the second group to the first group (eg, weekly *v* 3-weekly).

Median TTP for patients receiving weekly versus 3 weekly paclitaxel was 9 months versus 5 months (HR=1.43; $p < 0.0001$). Adjustments were made for line of therapy given the differences between the CALGB 9840 and 9342 patient population.

(A) TTP by paclitaxel schedule (combined sample) (B) TTP by trastuzumab use in HER-2 nonoverexpressors (limited sample)[2]



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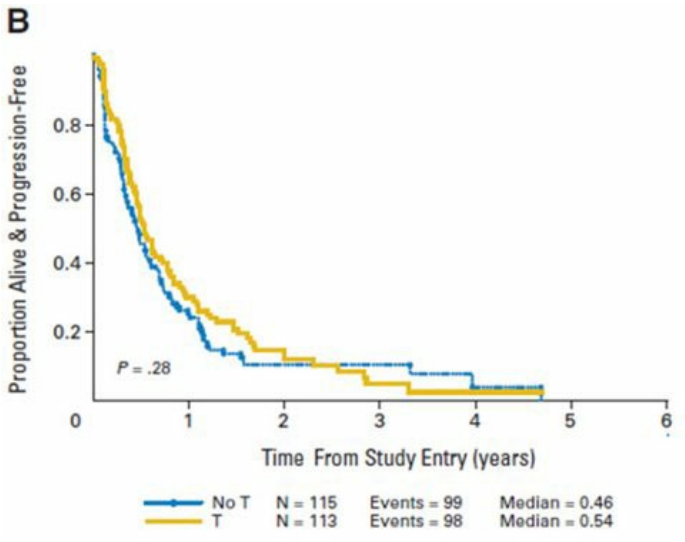

The overall survival of the 3 weekly to weekly paclitaxel in the combined sample, after adjusting for line of therapy, had a hazard ratio of 1.28 (p = 0.0092)

Toxicity

CALGB 9840

Adverse event data was presented for the limited sample only (CALGB 9840). Although grade 3 or worse granulocytopenia was more frequent with 3 weekly versus weekly paclitaxel (15% vs 9%; p = 0.017), febrile neutropenia requiring hospitalisation was infrequent with either schedule

Grade 2 and 3 sensory neuropathy was encountered in 24% of patients receiving weekly paclitaxel versus 12% receiving 3 weekly paclitaxel (p = 0.0046). This increase in incidence is inflated as a result of the excess neuropathy encountered in the first 116 patients who received 100 mg/m^2 paclitaxel for the first 6 infusions. Also a prospective analysis showed that this increase in neurotoxicity did not affect the quality of life scores.

2 treatment-related deaths occurred, attributable to pneumonia, in patients randomly assigned to weekly paclitaxel alone.[2]

Haematological Toxicity [2]

Table 4. Grade 3-4 Hematologic Toxicity by Paclitaxel Dosing Schedule (n = 572)

		Toxicity Grade			
		3 (severe)		4 (life threatening)	
Measure	Treatment Arm	No.	%	No.	%
WBC	3-weekly	17	8	2	1
	Weekly	21	6	7	2
Platelets	3-weekly	4	2	0	0
	Weekly	3	1	2	1
Hemoglobin	3-weekly	6	3	0	0
	Weekly	17	5	1	< 1
Granulocytes/bands	3-weekly	22	10	12	5
	Weekly	19	5	11	3
Lymphocytes	3-weekly	19	8	9	4
	Weekly	53	15	14	4

Abbreviation: 3-weekly, every 3 weeks.

Non Haematological Toxicity

Table 6. Grade 3-4 Nonhematologic Toxicity by Paclitaxel Dosing Schedule (n = 572)

		Toxicity Grade			
		3 (severe)		4 (life threatening)	
Toxicity	Treatment	No.	%	No.	%
Infection	3-weekly	10	4	0	0
	Weekly*	16	5	3	1
Diarrhea	3-weekly	6	3	0	0
	Weekly	16	5	0	0
Dyspnea	3-weekly	7	3	3	1
	Weekly	18	5	8	2
Edema	3-weekly	2	1	0	0
	Weekly	18	5	2	1
Neurosensory	3-weekly	27	12	0	0
	Weekly	84	24	1	< 1
Neuromotor	3-weekly	9	4	0	0
	Weekly	30	9	0	0
Malaise/fatigue	3-weekly	11	5	0	0
	Weekly	20	6	1	< 1
Hyperglycemia	3-weekly	15	7	2	1
	Weekly	14	4	3	1

Abbreviation: 3-weekly, every 3 weeks.
*There was one lethal infection.

References

1 Perez, E. A., C. L. Vogel, D. H. Irwin, et al. 2001. "Multicenter phase II trial of weekly paclitaxel in women with metastatic breast cancer." J.Clin Oncol. 19(22):4216-4223.

2 Seidman, A. D., D. Berry, C. Cirrincione, et al. 2008. "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 26(10):1642-1649.

History

Version 10

Date	Summary of changes
08/02/2023	As per reference committee consensus, removed: • Ranitidine recall flag • Ranitidine from treatment schedule detail. Version number increased to V.10.

Version 9

Date	Summary of changes
16/11/2021	Pulmonary toxicity added to side effects. Version number changed to V.9.
13/10/2022	Indications updated to align with PBS. Removed "in patients who have failed adjuvant therapy, but have not received chemotherapy for metastatic disease" from first dot point.

Version 8

Date	Summary of changes
04/05/2020	Biosimilar trastuzumab added to clinical information. Ranitidine recall flag added. Day 1 approximate treatment time changed to 3 hours (initial), 2 hours (subsequent). Version number changed to V.8.

Version 7

Date	Summary of changes
04/10/2019	Protocol reviewed at Medical Oncology Reference Committee meeting on 30/08/2019. ID 40 added as related page. Dose modification missed dose cutoff changed to 6 weeks, cardiac toxicity dose modification added. Version number changed to V.7. Next review in 5 years.
13/12/2019	Premedication added to administration discharge information section.

Version 6

Date	Summary of changes
21/06/2012	Transferred to eviQ and approved.
27/04/2012	Reviewed at Medical Oncology Reference Committe. No changes and next review in 2 years.
15/02/2013	Restrict paclitaxel volume to 250 mL as 500 mL not suitable for the majority of BSAs.
17/06/2013	Reducing premedication included as default in treatment schedule.
09/05/2014	Protocol reviewed by email survey. No change and next review in 2 years.
22/09/2015	Cardiac toxicity monitoring updated.
18/02/2016	Discussion with Medical Oncology Reference Committee Chairs and protocol to be reviewed every 5 years. Next review due in 3 years.
24/03/2017	Consensus of the Medical Oncology Reference Committee (via email discussion) to remove observation time frames from all trastuzumab protocols and replace with the statement "Observe patient for fever and chills or other infusion-related symptoms" as per current trastuzumab product information. Individual institutions may still implement/maintain local policies on monitoring time frames if they choose to do so.
28/03/2017	Per consensus at the 2016 eviQ Breast Reference Committee meeting, retrospectively added "Caution: left ventricular ejection fraction (LVEF) of 45% or less" to the Indications and patient population section in all trastuzumab protocols.
31/05/2017	Transferred to new eviQ website. Version number change to V.4. Hepatitis B screening changed to NOT recommended.
10/05/2018	Haematological dose modifications updated as per consensus of the expert clinician group. Version number changed to V.5.
06/12/2018	Paclitaxel diluent changed from glucose 5% to sodium chloride 0.9%. Version change to V.6.
30/01/2019	Link to ID 1875 Breast subcutaneous trastuzumab protocol added in related pages and treatment schedule sections.

First approved: 23 March 2009
Last reviewed: 30 August 2019
Review due: 31 December 2024

The currency of this information is guaranteed only up until the date of printing, for any updates please check:
https://www.eviq.org.au/p/167
08 Jun 2023

Patient information - Breast cancer metastatic - Paclitaxel weekly and trastuzumab three weekly

Patient's name:

Your treatment

The treatment schedule below explains how the drugs for this treatment are given.

Paclitaxel and trastuzumab			
This treatment cycle is repeated every 21 days. Your doctor will advise you of the number of treatments you will have.			
Day	**Treatment**	**How it is given**	**How long it takes**
1	**Paclitaxel** (*pak-li-TAX-el*) **Trastuzumab** *(tras-TOOZ-ue-mab)*	By a drip into a vein	About 3 hours for the first treatment. If no reactions, subsequent treatment may be given over a shorter amount of time e.g. 2 hours
8 and 15	**Paclitaxel**	By a drip into a vein	About 1.5 hours

When to get help

Anticancer drugs (drugs used to treat cancer) can sometimes cause serious problems. It is important to get medical help immediately if you become unwell.

IMMEDIATELY go to your nearest hospital Emergency Department, or contact your doctor or nurse if you have any of the following at any time:	**Emergency contact details** Ask your doctor or nurse from your treating team who to contact if you have a problem
• a temperature of 38ºC or higher • chills, sweats, shivers or shakes • shortness of breath • uncontrolled vomiting or diarrhoea • pain, tingling or discomfort in your chest or arms • you become unwell.	Daytime: Night/weekend: Other instructions:

During your treatment immediately tell the doctor or nurse looking after you if you get any of the following problems:

- leaking from the area where the drugs are being given
- pain, stinging, swelling or redness in the area where the drugs are being given or at any injection sites
- a skin rash, itching, feeling short of breath, wheezing, fever, shivers, or feeling dizzy or unwell in any way (allergic reaction).

Other information about your treatment

Changes to your dose or treatment delays

Sometimes a treatment may be started at a lower dose or the dose needs to be changed during treatment. There may also be times when your treatment is delayed. This can happen if your doctor thinks you are likely to have severe side effects, if you get severe side effects, if your blood counts are affected and causing delays in treatment, or if you are finding it hard to cope with the treatment. This is called a dose reduction, dose change or treatment delay. Your doctor will explain if you need any changes or delays to your treatment and the reason why.

Blood tests and monitoring

Anti-cancer drugs can reduce the number of blood cells in your body. You will need to have regular blood tests to check that your blood cell count has returned to normal. If your blood count is low, your treatment may be delayed until it has returned to normal. Your doctor or nurse will tell you when to have these blood tests.

Other medications given during this treatment

- **Anti-sickness (anti-nausea) medication:** you may be given some anti-sickness medication. Make sure you take this medication as your doctor or nurse tells you, even if you don't feel sick. This can help to prevent the sickness starting.

- **Paclitaxel premedication:** before your treatment with paclitaxel you may need to take some tablets called a premedication to help prevent you from having a reaction to the paclitaxel. The following table may be used to remind you when to take your premedication. Ask your doctor, nurse or pharmacist to fill it out for you. Sometimes after the first 4 treatments, if you have not had a reaction to paclitaxel, you may not be required to take any premedication.

Tablet	Dose	When to take

Tell your doctor or nurse if you have not taken your premedication before you have your treatment.

Side effects

Cancer treatments can cause damage to normal cells in your body, which can cause side effects. Everyone gets different side effects, and some people will have more problems than others.

The table below shows some of the side effects you may get with this treatment. You are unlikely to get all of those listed and you may also get some side effects that have not been listed.

Tell your doctor or nurse about any side effects that worry you. Follow the instructions below and those given to you by your doctor or nurse.

Immediate (onset hours to days)	

Allergic reaction	• Allergic reactions are uncommon but can be life threatening.
	• **If you feel unwell during the infusion or shortly after it, or:**
	  ◦ **get a fever, shivers or shakes**
	  ◦ **feel dizzy, faint, confused or anxious**
	  ◦ **start wheezing or have difficulty breathing**
	  ◦ **have a rash, itch or redness of the face**
	
	<u>While you are in hospital:</u> Tell your doctor or nurse immediately.
	<u>After you leave:</u> Contact your doctor or nurse immediately, or go to the nearest hospital Emergency Department.

Flu-like symptoms	• You may get:
	  ◦ a fever
	  ◦ chills or sweats
	  ◦ muscle and joint pain
	  ◦ a cough
	  ◦ headaches.
	• Tell your doctor or nurse if you get any of the symptoms listed above.
	• **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have a temperature of 38°C or higher.**

Nausea and vomiting	• You may feel sick (nausea) or be sick (vomit). • Take your anti-sickness medication as directed even if you don't feel sick. • Drink plenty of fluids (unless you are fluid restricted). • Eat small meals more frequently. • Try food that does not require much preparation. • Try bland foods like dry biscuits or toast. • Gentle exercise may help with nausea. • Ask your doctor or nurse for eviQ patient information - Nausea and vomiting during cancer treatment. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have uncontrolled vomiting or feel dizzy or light-headed.**
Taste and smell changes	• You may find that food loses its taste or tastes different. • These changes are likely to go away with time. • Do your mouth care regularly. • Chew on sugar-free gum or eat sugar-free mints. • Add flavour to your food with sauces and herbs. • Ask your doctor or nurse for eviQ patient information - Taste and smell changes during cancer treatment.

Early (onset days to weeks)

Infection risk (neutropenia)	• This treatment lowers the amount of white blood cells in your body. The type of white blood cells that help to fight infection are called neutrophils. Having low level of neutrophils is called neutropenia. If you have neutropenia, you are at greater risk of getting an infection. It also means that your body can't fight infections as well as usual. This is a serious side effect, and can be life threatening. • Wash your hands often. • Keep a thermometer at home and take your temperature regularly, and if you feel unwell. • Do your mouth care regularly. • Inspect your central line site (if you have one) daily for any redness, pus or swelling. • Limit contact with people who are sick. • Learn how to recognise the signs of infection. • Ask your doctor or nurse for eviQ patient information - Infection during cancer treatment. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of the following signs or symptoms:** ◦ **a temperature of 38°C or higher** ◦ **chills, shivers, sweats or shakes** ◦ **a sore throat or cough** ◦ **uncontrolled diarrhoea** ◦ **shortness of breath** ◦ **a fast heartbeat** ◦ **become unwell even without a temperature.**
Low platelets (thrombocytopenia)	• This treatment lowers the amount of platelets in your blood. Platelets help your blood to clot. When they are low, you are at an increased risk of bleeding and bruising. • Try not to bruise or cut yourself. • Avoid contact sport or vigorous exercise. • Clear your nose by blowing gently. • Avoid constipation. • Brush your teeth with a soft toothbrush. • Don't take aspirin, ibuprofen or other similar anti-inflammatory medications unless your doctor tells you to. • Tell your doctor or nurse if you have any bruising or bleeding. • **Tell your doctor or nurse immediately, or go to your nearest hospital Emergency Department if you have any uncontrolled bleeding.**
Tiredness and lack of energy (fatigue)	• You may feel very tired, have no energy, sleep a lot, and not be able to do normal activities or things you enjoy. • Do not drive or operate machinery if you are feeling tired. • Nap for short periods (only 1 hour at a time) • Prioritise your tasks to ensure the best use of your energy. • Eat a well balanced diet and drink plenty of fluids (unless you are fluid restricted). • Try some gentle exercise daily. • Allow your friends and family to help. • **Tell your doctor or nurse if you get any of the symptoms listed above.**

Mouth pain and soreness (mucositis)	• You may have: ◦ bleeding gums ◦ mouth ulcers ◦ a white coating on your tongue ◦ pain in the mouth or throat ◦ difficulty eating or swallowing. • Avoid spicy, acidic or crunchy foods and very hot or cold food and drinks. • Try bland and soft foods. • Brush your teeth gently with a soft toothbrush after each meal and at bedtime. If you normally floss continue to do so. • Rinse your mouth after you eat and brush your teeth, using either: ◦ 1/4 teaspoon of salt in 1 cup of warm water, or ◦ 1/4 teaspoon of bicarbonate of soda in 1 cup of warm water • Ask your doctor or nurse for eviQ patient information - Mouth problems during cancer treatment. • **Tell your doctor or nurse if you get any of the symptoms listed above.**
Joint and muscle pain and stiffness	• You may get muscle, joint or general body pain and stiffness. • Applying a heat pack to affected areas may help. • Talk to your doctor or nurse about other ways to manage these symptoms. You may need medication to help with any pain.
Nerve damage (peripheral neuropathy)	• You may notice a change in the sensations in your hands and feet, including: ◦ tingling or pins and needles ◦ numbness or loss of feeling ◦ pain. • You may find it difficult to do everyday activities, such as doing up buttons or picking up small objects. • Test water temperature with your elbow when bathing to avoid burns. • Use rubber gloves, pot holders and oven mitts in the kitchen. • Wear rubber shoes or boots when working in the garden or garage. • Keep rooms well lit and uncluttered. • Ask your doctor or nurse for eviQ patient information – Nerve problems during cancer treatment. • Tell your doctor or nurse if you get any of the symptoms listed above.
Diarrhoea	• You may get bowel motions (stools, poo) that are more frequent or more liquid. • You may also get bloating, cramping or pain. • Take your antidiarrhoeal medication as directed by your doctor. • Drink plenty of fluids (unless you are fluid restricted). • Eat and drink small amounts more often. • Avoid spicy foods, dairy products, high fibre foods, and coffee. • Ask your doctor or nurse for eviQ patient information - Diarrhoea during cancer treatment. • **Tell your doctor or nurse immediately, or go to your nearest hospital Emergency Department if your diarrhoea is not controlled, you have 4 or more loose bowel motions per day, and if you feel dizzy or light-headed.**
Skin rash	• You may get a red, bumpy rash and dry, itchy skin. • Moisturise your skin with a gentle non-perfumed moisturising cream like sorbolene or aqueous cream. • Do not scratch your skin. • Protect your skin from the sun by wearing sun-protective clothing, a wide-brimmed hat, sunglasses and sunscreen of SPF 50 or higher. • **Talk to your doctor or nurse about other ways to manage your skin rash.**

Late (onset weeks to months)	
Low red blood cells (anaemia)	• You may feel dizzy, light-headed, tired and appear more pale than usual. • Tell your doctor or nurse if you have any of these signs or symptoms. You might need a blood transfusion. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have any chest pain, trouble breathing, or feel like your heart is racing.**
Hair loss (alopecia)	• Your hair may start to fall out from your head and body. • Hair loss usually starts 2 to 3 weeks after your first treatment. • You may become completely bald and your scalp might feel tender. • Use a gentle shampoo and a soft brush. • Take care with hair products like hairspray, hair dye, bleaches and perms. • Protect your scalp from the cold with a hat, scarf or wig. • Protect your scalp from the sun with a hat or sunscreen of SPF 50 or higher. • Moisturise your scalp to prevent itching. • Ask your doctor or nurse about the Look Good Feel Better program
Nail changes	• Your nails may: ◦ grow more slowly ◦ become darker ◦ develop ridges or white lines ◦ become brittle and flaky • In some cases, you may lose your nails completely. • Keep your nails clean and short. • Avoid things like biting your fingernails, getting a manicure, pedicure or false nails. • Wear gloves when you wash the dishes, work in the garden, or clean the house.
Lung problems	• Lung problems are rare, but can be serious. They may occur throughout treatment or after the completion of treatment. • You may get: ◦ shortness of breath ◦ fever ◦ dry cough ◦ wheezing ◦ fast heartbeat ◦ chest pain. • Your doctor will monitor how well your lungs are working during your treatment. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have chest pain or become short of breath.**

Delayed (onset months to years)	
Menopausal symptoms	• You may get: ◦ hot flushes or night sweats ◦ mood changes ◦ vaginal dryness ◦ irregular or no periods. • You may also: ◦ have trouble sleeping ◦ find sex painful or lose interest in sex • These symptoms may go away after treatment, or the menopause may be permanent. • If you have sex you should use contraception as there is still a risk of pregnancy. Talk to your doctor about what form of contraception is right for you. • Talk to your doctor or nurse about ways to manage these symptoms.
Heart problems	• You may get: ◦ chest pain or tightness ◦ shortness of breath ◦ swelling of your ankles ◦ an abnormal heartbeat. • Heart problems can occur months to years after treatment. • Tell your doctor if you have a history of heart problems or high blood pressure. • Before or during treatment, you may be asked to have a test to see how well your heart is working. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of the symptoms listed above.**

General advice for people having cancer treatment

Chemotherapy safety

- Learn how to keep you and your family safe while you are having anticancer drugs.
- See our patient information sheet - Chemotherapy safety at home.

Blood clot risk

- Cancer and anticancer drugs can increase the risk of a blood clot (thrombosis).
- Tell your doctor if you have a family history of blood clots.
- A blood clot can cause pain, redness, swelling in your arms or legs, shortness of breath or chest pain.
- If you have any of these symptoms go to your nearest hospital Emergency Department.

Medications and vaccinations

- Before you start treatment, tell your doctor about any medications you are taking, including vitamins or herbal supplements.
- Don't stop or start any medications during treatment without talking to your doctor and pharmacist first.
- Paracetamol is safe to take if you have a headache or other mild aches and pains. It is recommended that you avoid taking aspirin, ibuprofen and other anti-inflammatory type medications for pain while you are having treatment. However, if these medications have been prescribed by your doctor, do not stop taking them without speaking with your doctor.
- Vaccinations such as flu and tetanus vaccines are safe to receive while having treatment. Do not have any live vaccines during your treatment or for 6 months after it finishes. If you are unsure, check with your doctor before you have any vaccinations.
- People you live with should be fully vaccinated, including having live vaccines according to the current vaccination schedule. Extra care needs to be taken with hand washing and careful disposal of soiled nappies for infants who have recently received the rotavirus vaccine.

Other medical and dental treatment

- If you go to hospital or any other medical appointment (including dental appointments), always tell the person treating you that you are receiving anticancer drugs.
- Before you have any dental treatment, talk to your doctor.

Diet

- While you are receiving this treatment it is important that you try to maintain a healthy diet.
- Grapefruit and grapefruit juice can interact with your medication and should be avoided while you are on this treatment.
- Speak to your doctor or nurse about whether drinking alcohol is safe with your treatment.
- If you have any concerns about recent weight loss or weight gain or questions about your diet, ask to speak to a dietitian.

Fertility

- Some cancer treatments can reduce your fertility. This can make it difficult or impossible to get pregnant or father a child.
- Talk to your doctor or nurse before you start any treatment. Depending on your situation there may be fertility sparing options available to you and/or your partner, discuss these with your doctor or nurse.

Pregnancy and breastfeeding

- Some cancer treatments can be dangerous to unborn babies. Talk to your doctor or nurse if you think there is any chance that you could be pregnant.
- Do not try to get pregnant or father a child during this treatment. Contraception should be used during treatment and after stopping treatment. Ask your doctor or nurse about what type of contraception you should use.
- If you are planning pregnancy/fatherhood after completing this treatment, talk to your doctor. Some doctors advise waiting between 6 months and 2 years after treatment.
- Do not breastfeed if you are on this treatment, as anti-cancer medications can also pass into breast milk.

Sex life and sexuality

- The desire to have sex may decrease as a result of this treatment or its side effects.
- Your emotions and the way you feel about yourself may also be affected by this treatment.
- It may help to discuss your concerns with your partner and doctor or nurse.

Quitting smoking

- It is never too late to quit smoking. Quitting smoking is one of the best things you can do to help your treatment work better.
- There are many effective tools to improve your chances of quitting.
- Talk to your treating team for more information and referral to a smoking cessation support service.

Staying active

- Research shows that exercise, no matter how small, has many benefits for people during and after cancer treatment.
- Talk to your doctor before starting an exercise program. Your doctor can advise whether you need a modified exercise program.

For more information about cancer treatment, side effects and side effect management see our Patient and carers section.

Where to get more information

Telephone support

- Call Cancer Council on 13 11 20 for cancer information and support.

Breast cancer information

- Australasian Lymphology Association – lymphoedema.org.au
- Australasian Menopause Society – menopause.org.au
- Breast Cancer Network Australia – bcna.org.au
- National Breast Cancer Foundation – nbcf.org.au
- YWCA Encore breast cancer exercise program – ywcaencore.org.au

General cancer information and support

- Australian Rare Cancer (ARC) Portal – arcportal.org.au/
- Beyondblue – beyondblue.org.au
- Cancer Australia – canceraustralia.gov.au
- Cancer Council Australia – cancer.org.au
- Cancer Voices Australia – cancervoicesaustralia.org
- CanTeen – canteen.org.au

- Carers Australia – carersaustralia.com.au
- CHILL Cancer related hair loss – scalpcooling.org
- eviQ Cancer Treatments Online – eviQ.org.au
- LGBTQI+ People and Cancer - cancercouncil.com.au/cancer-information/lgbtqi
- Look Good Feel Better – lgfb.org.au
- Patient Information – patients.cancer.nsw.gov.au
- Radiation Oncology Targeting Cancer – targetingcancer.com.au
- Redkite – redkite.org.au
- Return Unwanted Medicines – returnmed.com.au
- Staying active during cancer treatment – patients.cancer.nsw.gov.au/coping-with-cancer/physical-wellbeing/staying-active

Quit smoking information and support

Quitting smoking is helpful even after you have been diagnosed with cancer. The following resources provide useful information and support to help you quit smoking. Talk to your treating team about any other questions you may have.

- Call Quitline on 13 QUIT (13 78 48)
- iCanQuit – iCanQuit.com.au
- Patient Information – patients.cancer.nsw.gov.au/coping-with-cancer/physical-wellbeing/quitting-smoking
- Quitnow – quitnow.gov.au

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