Colorectal metastatic capecitabine and beVACizumab

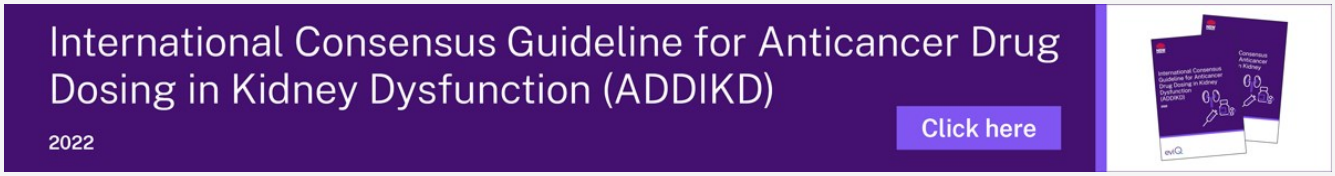
ID: 1175 v.8 **Endorsed** Essential Medicine List

⚠ Fluoropyrimidine overdose or overexposure:
Fluoropyrimidine overdose or overexposure may result in severe or life-threatening toxicity. An antidote is available and is highly effective if given within 96 hours. Read more about fluoropyrimidine overdose or overexposure.

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

Avastin® (bevacizumab) is no longer available on the PBS and alternative biosimilars are now available. The rapid infusion administration instructions for subsequent doses of bevacizumab included in eviQ protocols are based on studies conducted using Avastin® (bevacizumab).

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.



Treatment schedule - Overview

Cycle 1 and further cycles

Drug	Dose	Route	Day
beVACizumab	7.5 mg/kg	IV infusion	1
Capecitabine *	1,250 mg/m^2 TWICE a day	PO	1 to 14

* Consider starting capecitabine at a dose of 1000 mg/m^2 BD in elderly patients and patients considered at risk of toxicity.

Frequency: 21 days

Cycles: Continuous until disease progression or unacceptable toxicity

Drug status: All drugs in this protocol are on the PBS general schedule

Capecitabine is available as **150 mg** and **500 mg** tablets.

Cost: ~ $820 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 and further cycles

Day 1		
beVACizumab	7.5 mg/kg (IV infusion)	in 100 mL sodium chloride 0.9% over 90 minutes (1st dose); if first dose is well tolerated, subsequent doses may be administered over 10 minutes *
Capecitabine	1,250 mg/m^2 (PO)	TWICE a day within 30 minutes after the end of a meal **

Day 2 to 14		
Capecitabine	1,250 mg/m^2 (PO)	TWICE a day within 30 minutes after the end of a meal **

* It is the consensus of the eviQ reference committee that it is safe to give the initial dose of bevacizumab over 30 minutes.[1] The rapid infusion administration instructions for subsequent doses of bevacizumab are based on studies conducted using Avastin® (bevacizumab). Refer to bevacizumab infusion times for more information.

** Consider starting capecitabine at a dose of 1000 mg/m^2 BD in elderly patients and patients considered at risk of toxicity.

Frequency: 21 days

Cycles: Continuous until disease progression or unacceptable toxicity

Indications and patient population

- Initial treatment of metastatic colorectal cancer in patients with unresectable disease
  - ECOG performance status 0 to 2
  - Patients considered unsuitable for treatment with oxaliplatin or irinotecan in the first-line setting.

Clinical information

Safety alert fluoropyrimidines	Fluoropyrimidines can be administered by different routes and schedules with each method having associated increased risk of certain side effects. Fluoropyrimidine overdose or overexposure is a rare but potentially life threatening side effect of this drug class and can occur by any route of administration. An antidote is available and highly effective if given within 96 hours. Read more about the medication safety alert for infusional fluorouracil and fluoropyrimidine overdose or overexposure
Caution with oral anti-cancer drugs	Select links for information on the safe prescribing, dispensing and administration of orally administered anti-cancer drugs. Read more about the COSA guidelines and oral anti-cancer therapy
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
Emetogenicity minimal or low	No routine prophylaxis required. If patients experience nausea and/or vomiting, consider using the low emetogenic risk regimen. Read more about preventing anti-cancer therapy induced nausea and vomiting
Cardiac toxicity	Angina-like chest pain, tachycardia, arrhythmias, heart failure, myocardial infarction and cardiac arrest may occur with capecitabine especially in patients with a prior history of coronary artery disease. Cardiac symptoms may require cessation of capecitabine and referral to a cardiologist for symptomatic treatment. Re-challenge is controversial and generally not recommended. Read more about cardiac toxicity associated with anti-cancer drugs

Dihydropyrimidine dehydrogenase (DPD) enzyme deficiency	Rare, life-threatening toxicities such as mucositis, neutropenia, neurotoxicity and diarrhoea have been reported following administration of fluoropyrimidines (e.g. fluorouracil and capecitabine). Severe unexplained toxicities require investigation prior to continuing with treatment. Testing for DPD enzyme deficiency is available in Australia but not currently reimbursed. Read more about dihydropyrimidine dehydrogenase (DPD) enzyme deficiency
Diarrhoea	Antidiarrhoeals (e.g. loperamide) are usually prescribed with this treatment. Read more about treatment induced diarrhoea
Hyperbilirubinaemia	Capecitabine can induce hyperbilirubinaemia which may require an interruption in treatment (see dose modifications).
Wound healing	Bevacizumab may adversely affect wound healing and should not be initiated in patients with a serious non-healing wound or ulcer. Elective surgery should not be undertaken within 6 weeks from the last dose of bevacizumab. Bevacizumab can be restarted 28 days after surgery provided wound healing is complete. Necrotising fasciitis, including fatal cases, has rarely been reported in patients treated with bevacizumab; usually secondary to wound healing complications, gastrointestinal perforation or fistula formation. Bevacizumab therapy should be discontinued in patients who develop necrotising fasciitis, and appropriate treatment should be promptly initiated.
Gastrointestinal perforation	Bevacizumab has been associated with serious cases of gastrointestinal (GI) perforation and should be permanently discontinued in patients who develop it.
Haemorrhage	Patients treated with bevacizumab have an increased risk of haemorrhage, especially tumour associated haemorrhage and minor mucocutaneous haemorrhage (e.g. epistaxis). Bevacizumab should be used with caution in patients at risk of bleeding.
Hypertension	Pre-existing hypertension should be adequately controlled prior to commencing bevacizumab and blood pressure should be monitored during therapy. Commence or adjust antihypertensive medication as clinically indicated.
Proteinuria	Patients may be at increased risk of developing proteinuria when treated with bevacizumab. Baseline urinalysis for proteinuria is recommended prior to commencement of therapy, and as clinically indicated. Routine testing prior to each treatment is no longer recommended, as dose reductions for low/intermediate levels of proteinuria are not recommended. Clinicians are advised to consider evaluating for proteinuria periodically (e.g. every 3 to 4 months) or in patients with clinical concerns (e.g. oedema/unexplained hypoalbuminemia) as treatment interruption may be required if proteinuria is significant (e.g. > 3 g/L). Read more about proteinuria
Reversible posterior leukoencephalopathy syndrome (RPLS)	Bevacizumab should be discontinued in patients who develop reversible posterior leukoencephalopathy syndrome (RPLS). The risk of reinitiating bevacizumab therapy in patients previously experiencing RPLS is not known. Read more about reversible posterior leukoencephalopathy syndrome (RPLS)
Thromboembolism	Both arterial and venous thromboembolic events have been observed in patients with this treatment. Therefore, use with caution in patients at increased risk or with a history of thrombotic events (i.e., cerebrovascular and cardiovascular disease)
Biosimilar drug	Read more about biosimilar drugs on the Biosimilar Awareness Initiative page
Blood tests	FBC, EUC and LFTs at baseline and prior to each cycle. INR 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 capecitabine by 25% for subsequent cycles
Febrile neutropenia	Delay treatment until recovery and consider reducing capecitabine 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

Haematological toxicity	
less than 50	Delay treatment until recovery and consider reducing capecitabine by 25% for subsequent cycles

Renal impairment	
Creatinine clearance (mL/min)	
30 to 50	Reduce capecitabine by 25%
less than 30	Omit capecitabine

Hepatic impairment	
Hepatic dysfunction	
Mild	No dose modification necessary
Moderate	Reduce capecitabine by 25%
Severe	Reduce capecitabine by 50%
Treatment related Grade 3 or Grade 4 hyperbilirubinaemia	Delay treatment until toxicity resolves to Grade 2 or less and reduce the dose of capecitabine for subsequent cycles as recommended above

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

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

Hand foot syndrome (link to Hand foot syndrome (Palmar-plantar erythrodysaesthesia))	
Grade 2	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for subsequent cycles as follows: 1st occurrence: No dose reduction 2nd occurrence: Reduce capecitabine 25% 3rd occurrence: Reduce capecitabine by 50% 4th occurrence: Omit capecitabine
Grade 3	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for subsequent cycles as follows: 1st occurrence: Reduce capecitabine by 50%

Hand foot syndrome (link to Hand foot syndrome (Palmar-plantar erythrodysaesthesia))	
	2nd occurrence: Omit capecitabine

Cease bevacizumab if any of the following occur:

- haemorrhagic event greater than or equal to grade 3
- pulmonary embolism, cerebrovascular event or arterial insufficiency
- arterial thromboembolic event
- grade 4 hypertension or persisting grade 3 hypertension
- nephrotic syndrome
- gastrointestinal perforation or fistula formation
- episode of reversible posterior leukoencephalopathy syndrome (RPLS)

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*

Bevacizumab		
	Interaction	**Clinical management**
Anthracyclines	May enhance the cardiotoxic effect of anthracycline anti-cancer drugs	Monitor for increased cardiotoxicity (e.g. congestive heart failure)
Sunitinib	Microangiopathic haemolytic anaemia	Monitor for haemolytic anaemia, thrombocytopenia, hypertension, elevated creatinine and neurological symptoms
Sorafenib	Increased risk of toxicity, especially hand-foot syndrome	Monitor for increased toxicity
Anti-EGFR monoclonal antibodies (e.g. cetuximab, panitumumab)	Additive toxicity without additional treatment benefit	Avoid combination
Medications known to cause GI perforation (e.g. methylnaltrexone, NSAIDs, steroids)	Additive risk of GI perforation	Avoid combination

Capecitabine		
	Interaction	**Clinical management**
Sorivudine* and analogues (e.g. brivudine*)	Potentially fatal increased toxicity of fluorouracil, the active metabolite of capecitabine, due to reduced clearance	Combination contraindicated and at least 4 weeks must elapse between the end of treatment with sorivudine (or analogues, such as brivudine) and the start of capecitabine therapy
Warfarin and other drugs metabolised by CYP2C9 (e.g. phenytoin etc.)	Increased effects/toxicity of these drugs possible due to inhibition of CYP2C9 by capecitabine and/or its metabolites resulting in reduced clearance	Avoid combination or monitor for increased effect/toxicity (e.g. INR can be increased by 91% in patients on warfarin)
Allopurinol	Reduced efficacy of capecitabine possible due to reduced conversion to the active metabolites	Avoid combination or monitor for reduced capecitabine efficacy

** currently not marketed in Australia*

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: 2 hours (initial); 1 hour (subsequent)

Handling of monoclonal antibodies and waste management

Safe administration

General patient assessment prior to each day of treatment.

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

Prime IV line(s).

Insert IV cannula or access TIVAD or CVAD.

Treatment - Time out

Bevacizumab

- Bevacizumab is only compatible with sodium chloride 0.9%, ensure IV lines are flushed with sodium chloride 0.9% pre and post administration.

Prior to administration check:

- blood pressure
- baseline urinalysis for protein and repeat as clinically indicated (link to proteinuria).

Administer bevacizumab:

- via IV infusion
- first dose over 90 minutes
  - the product information recommends giving the first dose over 90 minutes, it is the consensus of the eviQ reference committee that it is safe to give the initial dose of bevacizumab over 30 minutes[1]
- if well tolerated:
  - subsequent doses over 10 minutes (read more about the bevacizumab infusion times)
- observe for hypersensitivity reaction
- 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.

Remove IV cannula and/or deaccess TIVAD or CVAD.

Days 1 to 14

This is an oral treatment

Safe handling and waste management

Safe administration

General patient assessment prior to each treatment.

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

Chemotherapy - Time out

Capecitabine

- administer orally TWICE a day on **days 1 to 14**

- to be swallowed whole with a glass of water; do not break, crush or chew
- to be taken morning and night (approximately 12 hours apart) within thirty minutes after the end of a meal
- tablets may also be dispersed in water if patient has swallowing difficulties:
  - place the required number of tablets in a disposable cup and fill with approximately 200mL of water, leave the tablets to dissolve (approximately 15 minutes) and swallow immediately
  - mix any residues in the cup with water and swallow
  - avoid direct contact of the tablets or solution with the skin or mucous membrane. If such contact occurs, wash thoroughly.

Note: missed doses should not be replaced; if a dose is forgotten or vomited, normal dosing should be resumed at the next scheduled dose.

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

Discharge information

Capecitabine tablets

- Capecitabine tablets with written instructions on how to take them.

Antiemetics

- Antiemetics as prescribed.

Antidiarrhoeals

- Antidiarrhoeals as prescribed.

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)	
Nausea and vomiting	Read more about prevention of treatment induced nausea and vomiting
Cardiotoxicity	Coronary artery spasm is a temporary, sudden narrowing of one of the coronary arteries that may present at any time during treatment with fluoropyrimidines. It most commonly manifests as angina.
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
Diarrhoea	Read more about treatment induced diarrhoea
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
Anorexia	Loss of appetite accompanied by decreased food intake. Read more about anorexia
Fatigue	Read more about fatigue
Actinic keratoses flare	Pre-existing actinic keratoses (AKs) can become more inflamed and scaly as a result of immunosuppression. Read more about actinic keratoses flare
Palmar-plantar erythrodysaesthesia (PPE) - hand-foot syndrome (HFS)	Bilateral erythema, tenderness, pain, swelling, tingling, numbness, pruritus, dry rash, or moist desquamation and ulceration of the palms and soles. It is also known as hand-foot syndrome (HFS). Symptoms appear to be dose dependent and palms are affected more than soles. Read more about hand-foot syndrome associated with chemotherapy
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
Ocular changes	Symptoms may include eye pain, blurred vision, blepharitis, uveitis, optic neuritis, tear duct stenosis, conjunctivitis, hyperlacrimation, watery or dry eyes and photophobia.
Photosensitivity	Increased sensitivity to ultraviolet (UV) light resulting in an exaggerated sunburn-like reaction accompanied by stinging sensations and urticaria.
Epistaxis	Acute bleeding from the nostril(s), nasal cavity, or nasopharynx.
Proteinuria	Read more about proteinuria
Thromboembolism	Arterial and venous thromboembolic events, including pulmonary embolism, deep vein thrombosis and cerebrovascular accidents can occur. Patients should be carefully assessed for risk factors, and consideration given for antithrombotic prophylaxis in high risk patients.
Hypertension	High blood pressure is commonly associated with many anti-cancer drugs. Pre-existing hypertension should be controlled prior to initiation of drugs capable of causing hypertension.
Gastrointestinal perforation	A rupture of the wall of the stomach, small intestine or large bowel. Symptoms include acute abdominal pain, tenderness and signs of sepsis.

Late (onset weeks to months)	
Anaemia	Abnormally low levels of red blood cells (RBCs) or haemoglobin in the blood. Read more about anaemia
Hyperbilirubinaemia	An abnormal increase in the amount of bilirubin circulating in the blood which may result in jaundice.
Hyperpigmentation	Darkening of an area of skin caused by the overproduction of melanin.
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

Evidence

The pivotal study demonstrating the safety and efficacy of capecitabine and bevacizumab in the first-line treatment of metastatic colorectal cancer is the MAX (Mitomycin, Avastin, Xeloda) Study.[2] The MAX Study, was a Phase III, investigator-initiated, multi-centre, open-label, 3 arm, randomised controlled trial sponsored by the Australasian Gastro-Intestinal Trials Group.

This study compared capecitabine alone (C), capecitabine and bevacizumab (CB) and capecitabine, bevacizumab and mitomycin (CBM) in a total of 471 patients. There were 156 patients in the C arm and 157 patients in the CB arm.[2]

Efficacy

The median progression free survival (PFS) in the capecitabine group was 5.7 months, compared with 8.5 months in the capecitabine/bevacizumab group and 8.4 months in the capecitabine/bevacizumab/mitomycin group. When capecitabine was compared with the combination of capecitabine and bevacizumab, the hazard ratio was 0.63 (95% CI 0.50-0.79, P<0.001).[2]

The median overall survival for both the capecitabine with or without bevacizumab was 18 months, when both agents were combined with mitomycin the median overall survival was 16.4 months. On multivariate analysis, treatment was not associated with overall survival.

The response rate (confirmed partial or complete response) for capecitabine alone was 30.3%, CB 38.1% and CBM 45.9%. When C was compared with CB, the difference was not statistically significant (p=0.16), however when C was compared with CBM the difference was statistically significant (p=0.006).

In terms of sub-group analysis, patients with a single site of metastases or hepatic metastases only derived a greater benefit from the addition of bevacizumab.

Ratings of overall quality of life were similar in all 3 groups at baseline, 3 weeks, 6 weeks and at progression.[2]

Kaplan-Meier curves of (A) Progression-free survival (B) Overall survival[2]

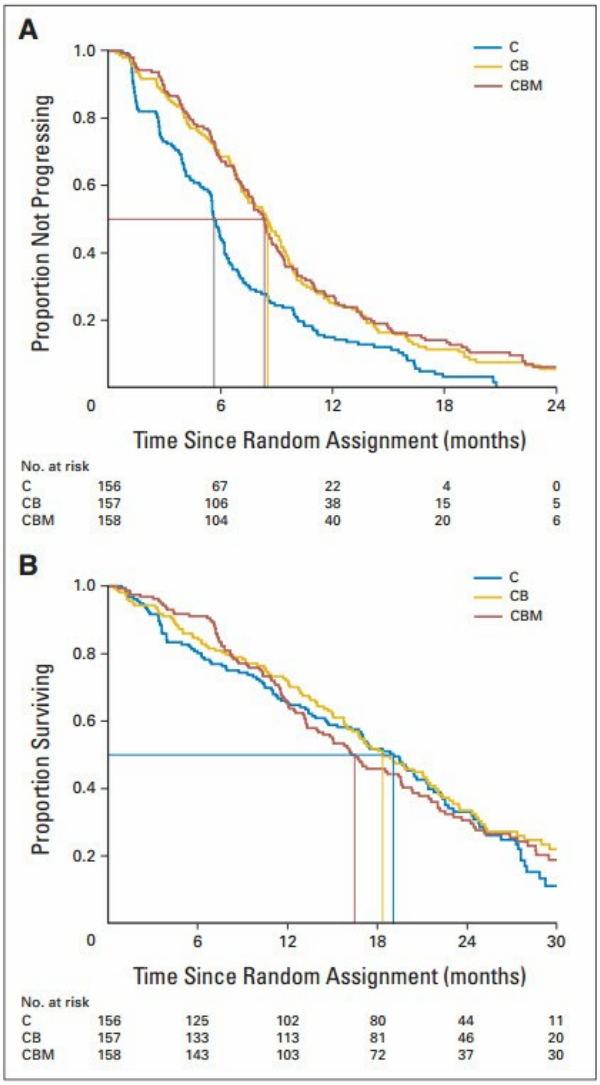


Fig 2. Kaplan-Meier curves of (A) progression-free survival and (B) overall survival for patients with advanced colorectal cancer treated with capecitabine (C; n = 156); capecitabine and bevacizumab (CB; n = 157); or capecitabine, bevacizumab, and mitomycin (CBM; n = 158).

Toxicity

The main adverse events noted are outlined in the following table.[2]

Toxicity

Table 2. Hematologic and Nonhematologic Adverse Events

Adverse Event by Treatment	% of Patients by Treatment Group and Adverse Event Grade					
	Capecitabine (n = 156)		CB (n = 157)		CBM (n = 158)	
	All Grades	Grades 3-5	All Grades	Grades 3-5	All Grades	Grades 3-5
Capecitabine						
Diarrhea	62	11	65	17	71	16
Hand-foot syndrome*	65	16	77†	26	78†	28
Stomatitis	26	2.6	48	1.3	53	3.8
Vomiting	31	5.1	38	5.1	40	4.4
Nausea	54	5.8	67	5.1	70	5.7
Fatigue	74	9.6	78	9.6	85	13
Febrile neutropenia	1.9	1.9	2.5	2.5	1.9	1.9
Infection, no neutropenia	29	8.3	36	10	36	11
Neutropenia, no infection	10	1.3	12	0.0	21	1.9
High bilirubin	7.7	2.6	6.4	0.6	7.0	1.3
Bevacizumab						
Proteinuria*	12	0.6	31	3.2	47†	6.3
Hypertension*	12	0.6	29	3.8	25†	6.3
Venous thrombosis or embolism	10	7.1	10	8.9	11	10
Arterial thromboembolism	0.0	0.0	4.5†	3.2	4.4†	4.4
Bowel perforation	0.6	0.6	1.9	1.9	0.6	0.6
Hemorrhage	12	2.6	12	1.3	20	5.1
Mitomycin						
Thrombocytopenia	9.6	0.0	15	0.0	44†	4.4
Hemolytic uremic syndrome	0.0	0.0	0.0	0.0	1.3	1.3

NOTE. Adverse events graded according to National Cancer Institute Common Terminology Criteria of Adverse Events, version 3.0.
Abbreviations: CB, capecitabine + bevacizumab; CBM, capecitabine + bevacizumab + mitomycin.
*When adjusted for treatment duration, differences were no longer significant (all $P > .05$).
†Grades 3 to 4 were significantly higher compared with capecitabine (unadjusted for duration of treatment; all $P < .03$).

References

1 Reidy, D. L., K. Y. Chung, J. P. Timoney, et al. 2007. "Bevacizumab 5 mg/kg can be infused safely over 10 minutes." J Clin Oncol. 25(19):2691-2695.

2 Tebbutt, N. C., K. Wilson, V. J. Gebski, et al. 2010. "Capecitabine, bevacizumab, and mitomycin in first-line treatment of metastatic colorectal cancer: results of the Australasian Gastrointestinal Trials Group Randomized Phase III MAX Study." J Clin Oncol 28(19):3191-3198.

History

Version 8

Date	Summary of changes
16/11/2021	Pulmonary toxicity added to side effect. Version number changed to V.8.
21/12/2021	Changed antiemetic clinical information block to minimal or low, to align with new categories. See ID 7 Prevention of anti-cancer therapy induced nausea and vomiting (AINV) v5.
20/10/2022	Protocol reviewed electronically by Medical Oncology Reference Committee. No changes. Next review 4 years.
21/10/2022	Bevacizumab treatment schedule note updated based on reference committee consensus to add that it is safe to

Date	Summary of changes
	give the initial dose of bevacizumab over 30 minutes.

Version 7

Date	Summary of changes
28/05/2021	Protocol flag added regarding bevacizumab biosimilar and administration time information. Treatment schedule- bevacizumab rapid infusion information added. Drug status - updated to include bevacizumab on PBS general schedule. Patient information- bevacizumab infusion time information updated in 'your treatment' section. Version increased to V.7.

Version 6

Date	Summary of changes
04/09/2020	Biosimilar drug added to clinical information. Version number changed to V.6.

Version 5

Date	Summary of changes
25/11/2011	New protocol taken to Medical Oncology Reference Committee meeting.
25/01/2012	Approved and published on eviQ.
22/03/2012	PHC OMIS view included.
03/04/2013	Bevacizumab administration times updated to include rapid infusion from cycle 2 onwards.
13/09/2013	Protocol reviewed at Medical Oncology Reference Committee meeting. Group consensus to change fixed dosing of capecitabine to mg/m^2 dosing to reflect published evidence. Next review in 2 years.
24/08/2014	PHC view removed.
04/02/2015	Dose modifications for proteinuria changed to align with recommendations in product information. Bevacizumab withheld if 24-hour proteinuria greater than *or equal* to 2g.
18/02/2016	Discussion with Medical Oncology Reference Committee Chairs and protocol to be reviewed every 5 years. Next review due in 3 years.
09/11/0216	The following changes were made post Medical Oncology Reference Committee meeting held on 21 October 2016: information in pre-clin, administration and side effect regarding bevacizumab and monitoring for proteinuria changed and recommendations removed from dose modifications. Link to AGTIG and ANZCTR added.
16/12/2016	Dissolving capecitabine information added to administration and patient information.
31/05/2017	Transferred to new eviQ website. Version number change to V.4. Hepatitis screening changed to not recommended.
16/02/2018	Protocol reviewed electronically by Medical Oncology Reference Committee. Fluoropyrimidine warning added, updated reasons for ceasing bevacizumab to include RPLS and fistula formation. Review in 5 years.
10/05/2018	Haematological dose modifications updated as per consensus of the expert clinician group. Version number changed to V.5.

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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/1175
12 Jul 2023

Patient information - Bowel cancer metastatic - Capecitabine and bevacizumab

Patient's name:

Your treatment

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

Capecitabine and bevacizumab			
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	**Bevacizumab** (*be-vuh-SIZ-uh-mab*)	By a drip into a vein	About 2 hours for the first treatment. If no reactions to bevacizumab, following treatments may be given over a shorter time.
1 to 14	**Capecitabine** (*KAP-e-SYE-ta-been*)	Take orally TWICE a day on days 1 to 14 with a glass of water within 30 minutes of finishing a meal (just after breakfast and then again after evening meal). Do not break, crush or chew tablets. If you are unable to swallow the tablets whole they may be dissolved in water and the solution swallowed (see directions in *Other information about your treatment).* If you forget to take a tablet or vomit a tablet, take your normal dose the next time it is due. Do not take an extra dose.	
15 to 21	**Do not** take capecitabine tablets from day 15 to 21		

Capecitabine tablets are available in two tablet strengths, 150 mg and 500 mg. It is important that you take the correct tablets and understand how to take them. Ask your doctor, nurse or pharmacist to complete the table below with the correct number of tablets for you.

Capecitabine	Morning	Evening
Number of 150 mg tablets		
Number of 500 mg tablets		

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.

Stop taking capecitabine and contact your doctor if you have any of the following side effects:

- diarrhoea - passing an extra 4 to 6 bowel motions per day, or passing bowel motions through the night
- vomiting - 2 to 5 episodes of vomiting in a 24 hour period
- a sore mouth which is making it difficult to eat
- pain and redness on the palms of your hands and the soles of your feet.

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. Tell your doctor if you are on an anticoagulant (medication used to treat or prevent blood clots) e.g. warfarin. You may need to have additional blood tests.

Surgery and wound healing

This treatment may affect wound healing. Tell your doctor if you are planning to have surgery or have a wound that has not healed.

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.
- **Antidiarrhoeals:** you may be given some medication to treat diarrhoea. Your doctor or nurse will tell you how and when to take your antidiarrhoeal medication.

Instructions for dissolving capecitabine tablets:

- Capecitabine tablets should never be crushed, cut or broken.
- You (or whoever is dissolving the tablets) should wear disposable gloves and try to minimise touching the tablets.
- Put the tablet(s) needed for the dose into a disposable cup with a lid, if possible. If using a non-disposable cup, ensure the cup is

kept only for this purpose.

- Fill the cup with approximately 200 mL of water and cover with lid if available.
- Leave the tablets in the water to dissolve, this may take up to 15 minutes. Gentle agitation of the solution may assist in the dissolving process, being careful not to spill the solution.
- Once the tablets have fully dissolved, swallow the solution immediately.
- In case of any spillages to skin, immediately wash the affected area thoroughly with warm soapy water. If spillage occurs to work surface or floor, wash area with warm soapy water and dry with absorbent paper towel or cloth. Dispose of cloth in a cytotoxic bag.
- The tablets have a bitter taste. The solution may be made more palatable by dissolving the tablets in fruit juice (not citrus juice) or by adding cordial or flavouring.
- To ensure that the whole dose is taken, swirl the cup with water and swallow. Repeat if necessary.
- The disposable cup and gloves should be disposed of in a cytotoxic waste bag. Non-disposable cups should be washed thoroughly with warm soapy water.

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)	
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.**
Heart problems	• You may get: ◦ chest pain or tightness ◦ shortness of breath ◦ an abnormal heartbeat • Tell your doctor if you have a history of heart problems or high blood pressure. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of the symptoms listed above.**
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.**
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.**

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.**
Appetite loss (anorexia)	• You may not feel like eating. • Try to avoid drinking fluids at meal times. • Try to eat small meals or snacks regularly throughout the day. • Try to eat food that is high in protein and calories. • If you are worried about how much food you can eat, or if you are losing weight, ask to speak to a dietitian.
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.**
Skin changes	• Your skin may become dry, and you may notice changes to areas of your skin that have been exposed to the sun. • Keep your skin moisturised with a cream such as sorbolene or aqueous cream. • Avoid direct sunlight. • Protect your skin from the sun by wearing a wide-brimmed hat, sun-protective clothing, sunglasses and sunscreen of SPF 50 or higher. • **Tell your doctor or nurse if you notice any skin changes.**
Hand-foot syndrome (palmar-plantar erythrodysaesthesia)	• The palms of your hands and soles of your feet may become: ◦ red and hot ◦ swollen ◦ painful and tender ◦ blistered. • The skin in the area may also peel. • Moisturise your hands and feet daily with sorbolene or aqueous cream. • Keep your hands and feet clean and dry. • Avoid hot water, instead use lukewarm water to bathe. • Avoid direct sunlight. • Avoid unnecessary walking, jogging or exercise. • Wear cotton socks and avoid tight-fitting shoes. • **Tell your doctor or nurse as soon as possible if you notice any skin changes on your hands or feet.**

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.**
Eye problems	• You may get: ◦ eye pain ◦ red, sore or swollen eyes ◦ blurred vision ◦ watery or gritty eyes ◦ changes in your eyesight ◦ sensitivity to sunlight. • Protect your eyes from the weather (sun and wind) by wearing sunglasses, especially if you have lost your eyelashes. • **Tell your doctor or nurse if you get any of the symptoms listed above. Eye drops may help with your symptoms.**
Skin that is more sensitive to the sun (photosensitivity)	• After being out in the sun you may develop a rash like a bad sunburn. • Your skin may become red, swollen and blistered. • Avoid direct sunlight. • Protect your skin from the sun by wearing sun-protective clothing, a wide-brimmed hat, sunglasses and a sunscreen of SPF 50 or higher. • **Tell your doctor or nurse if you get any of the symptoms listed above.**
Nose bleeds	• If your nose starts to bleed gently apply pressure on the soft part of nostrils below the bridge of the nose for at least 10 minutes. • It may help to put a cold pack over your forehead or the bridge of the nose. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if your nose will not stop bleeding.**
Kidney changes or damage	• This treatment may cause changes to how your kidneys work. This may cause protein in your urine. • This is not something that you will notice. • You will have blood and urine tests to check that your kidneys are working properly.
Blood clots (thromboembolism)	• Blood clots can occur with this 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:** ◦ **redness, heat or pain in your leg(s)** ◦ **numbness or weakness in your face, arm or leg** ◦ **chest pain** ◦ **sudden shortness of breath** ◦ **dizziness** ◦ **trouble speaking** ◦ **blurred vision** ◦ **severe headache** ◦ **unexplained falls or loss of balance.**
High blood pressure (hypertension)	• You may not have any signs or symptoms if you have high blood pressure. • If it is severe you may get headaches, shortness of breath or feel dizzy. • Your blood pressure will be taken regularly during your treatment. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of the signs or symptoms listed above.**

Bleeding into stomach or bowel	• This side effect is rare, but can be very serious. • **Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of these signs or symptoms:** ◦ **severe stomach pain** ◦ **swollen and hot skin around your stomach** ◦ **bleeding** ◦ **nausea or vomiting** ◦ **fever or chills** ◦ **a fast heartbeat** ◦ **you feel short of breath.**

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.**
High blood bilirubin levels (hyperbilirubinaemia)	• You may get: ◦ yellowing of your skin or eyes ◦ itchy skin ◦ pain or tenderness in your stomach ◦ nausea and vomiting ◦ loss of appetite. • You will have regular blood tests to check how well your liver is working. • **Tell your doctor or nurse as soon as possible if you notice that your urine is a dark colour, the whites of your eyes look yellow, or if you have stomach pain.**
Skin colour changes	• You may have darkening of your skin, especially in areas that are exposed to the sun. • You may also notice darkening of your tongue, gums and over your finger joints. • These skin changes may fade over time. • Protect your skin from the sun by wearing sun-protective clothing, a wide-brimmed hat, sunglasses and a sunscreen of SPF 50 or higher.
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.**

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.
- 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

Bowel cancer information

- Australian Council of Stoma Associations – australianstoma.com.au
- Australian Government Bladder and Bowel – bladderbowel.gov.au
- Australian Government Department of Health & Ageing Stoma appliance scheme – health.gov.au/internet/main/publishing.nsf/Content/Stoma+Appliance+Scheme-1
- Bowel Cancer Australia – bowelcanceraustralia.org
- National Public Toilet map – toiletmap.gov.au
- Recovering after Pelvic Radiation Therapy: A guide for women – https://www.targetingcancer.com.au/useful-resources/recovering-after-pelvic-radiation-therapy-a-guide-for-women/

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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