Extend-Ed Essentials

CAPECITABINE

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Mechanism of Action[1]

Capecitabine exerts its cytotoxic effects by inhibiting the formation of thymidylate, which is essential for DNA synthesis, and inhibiting RNA and protein synthesis.

Class[1]

Capecitabine is an antimetabolite in the fluoropyrimidine carbamate class and is a prodrug of 5-fluorouracil (5FU).

Dosing

Typically calculated using body surface area and administered in 21 day cycles. Various dosing schedules exist both as monotherapy or in combination with other anticancer agents.

***Refer to specific protocol by which a patient is being treated.*

Dosing Instructions[1]

- Oral self-administration
- Capecitabine is typically dosed BID, with doses approximately 12 hours apart
- Should be taken at the same time each day, within 30 minutes of the end of a meal
- Swallow tablets whole with a glass of water; do not crush, chew or split tablets

Missed Dose

If a dose is missed, skip the dose and take the next schedule dose as directed at the usual time. Do not replace missed doses or double-dose.

Storage and Handling[1]

- Store at room temperature (15°C - 30°C) in original packaging
- Keep away from direct sources of heat and sunlight and away from children and pets.
- Wash hands before and after handling both medications
  - A caregiver should wear nitrile or latex gloves if handling capecitabine

Indications[1]

- Capecitabine is indicated and approved for use, by Health Canada, in the treatment of: **breast cancer and colorectal cancer**
- Other potential indications include:
  - Gastrointestinal cancers (anal, rectal, small bowel, appendiceal, gastric, pancreatic, biliary tract)
  - Gastrointestinal endocrine tumours
  - Adrenal, renal cell cancer
  - Cancer of unknown primary origin
  - Head and neck cancer

Contra-indications[1,2]

- Patients with near or complete absence of DPD (dihydropyrimidine dehydrogenase) enzyme activity. Patients should be screened for DPYD genetic variants prior to initiating fluoropyrimidine-based therapies to prevent severe or life-threatening treatment related toxicity.
- Hypersensitivity to capecitabine, its excipients, 5-FU, or any ingredient in the formulation or component of the container
- Concomitant use of capecitabine with sorivudine or related analogues (i.e. brivudine), due to a potentially fatal drug interaction.
- Patients with severe renal impairment (CrCl <30 mL/min)

Dosing Adjustments[1]

Renal Impairment

- Moderate renal impairment (CrCl 30-50 mL/min), use 75% of the initial starting dose.
- Contraindicated in severe renal impairment (<30 mL/min).

Hepatic Impairment

- No dose adjustments are required for hepatic impairment.
- Not studied in severe liver impairment

Recommended Clinical Monitoring[1]

Baseline

- CBC*
- LFTs
- Renal function tests
- INR/PT

Prior to each cycle

- CBC*
- LFTs
- Renal function tests
- Clinical toxicity assessment
- INR/PT**

**Do not start capecitabine unless baseline neutrophil counts are ≥ 1.5x109/L and/or platelet counts are ≥ 100x109/L.*
***Check INR/PT as clinically indicated if patient is on anticoagulant therapy*

Relevant Co-morbidities[1]

- Use with caution in patients with known chronic liver disease, carriers of hepatitis B or C, or with pre-existing liver impairment. Testing for hepatitis B virus is recommended prior to starting immunosuppressive/cytotoxic anticancer therapy.[4]
- Patients should exercise caution when driving or operating a vehicle or heavy machinery.
- Capecitabine contains lactose; carefully consider use in patients with hereditary galactose intolerance, severe lactase deficiency or glucose-galactose malabsorption.
- Patients with a history of cardiovascular disease and patients taking anticoagulants.
- Use with caution in patients with risk factors for dehydration, pre-existing renal dysfunction, or concomitant use with nephrotoxic drugs.
- Use extreme caution in patients with partial DPD deficiency.

Common Adverse Effects and Management[1,3]

Adverse Effects	Expected Onset	Management / Notes
Diarrhea *Incidence: 46%*	Weeks - months	Encourage proper hydration, low fiber foods, and drinking clear fluids (6-8 cups of water/day). Avoid fried or spicy foods, caffeine, artificial sweeteners. Use rescue antidiarrhea drugs (loperamide) if indicated. **Seek medical attention if: diarrhea does not improve after 24h despite taking antidiarrheal, >7 episodes of diarrhea in 24 hours, or if diarrhea is unusually foul-smelling.**
Hand-foot syndrome *Incidence (Palmar-plantar erythrodysesthe-sia syndrome - PPES): 22%*	Days - weeks	If completing activities that require friction or pressure on the skin of hands or feet (driving, washing dishes, walking), wear gloves and thick socks. Moisturize hands and feet often. Wear comfortable footwear. Do not let hands and feet get too warm. **If painful swelling, erythema, desquamation, blistering, or bleeding occur, patients should contact oncology team or PCP.**
Nausea / vomiting *Incidence: 33%*	Days - weeks	Encourage dietary adjustments: small, light meals several times daily, clear liquids. Avoid foods high in fat or with heavy aroma, spicy foods, and caffeine. Anti-nausea medications may be needed. **Seek medical attention if nausea lasts more than 48 hours or if vomiting lasts 24 hours or more.**

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Common Adverse Effects and Management continued:

Adverse Effects	Expected Onset	Management / Notes
Increased bilirubin *Incidence: 19%*	Days - weeks	Monitored frequently through routine bloodwork. **Seek immediate medical attention if ever experiencing signs of hepatotoxicity: yellow skin/eyes, pain in upper right abdomen, unusually dark urine.**
Fatigue *Incidence: 15%*	Days - weeks	Encourage regular exercise (with caution), proper hydration and nutrition. Adequate rest when needed. Delay tasking activities when fatigued. **If there is no symptom improvement or severe fatigue, advise patient to contact their oncology team or PCP.**
Mucositis *Incidence: 22%*	Days - weeks	Maintain good oral hygiene by gently brushing/flossing daily. Use homemade mouthwash after meals: mix 1 tsp of baking soda and 1 tsp of salt in 4 cups of water. Avoid spicy, hot, acidic, crunchy foods. Avoid mouthwashes that contain alcohol.
Anorexia, weight loss *Incidence: 9%*	Days - weeks	Encourage small meals throughout the day, liquid nutrition supplements (i.e. Ensure), and adequate hydration. **Advise patients to contact oncology team or PCP for moderate/severe loss of appetite and/or weight loss.**

Rare, Serious Side-Effects[1,3]

Adverse Effects	Expected Onset	Management / Notes
Vision disturbances *Incidence: <1%*	Weeks - months	Advise patient to seek immediate medical attention if experiencing any sudden vision changes or any new eye problems such as severe redness, irritation, pain, tearing, sensitivity to light or blurred vision.
Cardiotoxicity *Incidence <5%*	Days - weeks	Patients with prior coronary artery disease may be at increased risk. Advise patients to seek immediate medical attention if experiencing chest pain and/or shortness of breath.
Hepatic failure *Incidence: <1%*	Days - weeks	Hyperbilirubinemia occurs more frequently in patients with hepatic metastases. Advise patients to seek immediate medical attention if experiencing jaundice, unusually dark urine or severe right abdominal pain.

Relevant Drug Interactions[1]

Significant drug interactions exist, requiring dose/frequency adjustment or avoidance. Capecitabine is converted to active 5-FU by the enzyme DPD. Consult drug interactions database or medication monographs for more information. Discuss new medications, supplements, and vaccinations with the patient.

- Capecitabine may inhibit CYP2C9, resulting in possible drug interactions with CYP2C9 substrates.
- Potentially **fatal** interaction with sorivudine and chemically related analogues.
- Monitor concomitant therapy with phenytoin, warfarin, leucovorin, PPIs, and *some* antacids (clinical significance of interactions with antacids unknown).

Fertility, Pregnancy, and Lactation[1]

- Capecitabine should not be used during pregnancy
- Adequate contraception should be used by patients who can become pregnant and their partners during treatment, and for 6 months after the last dose.
- Adequate contraception should be used by patients who produce sperm and their partners during treatment, and for 3 months after the last dose.
- Probable excretion into breast milk. Patients should not breastfeed while on therapy and for at least 2 weeks after the last dose.

References

1. Cancer Care Ontario. Capecitabine. Provider Monograph. Cancer Care Ontario. Accessed November 27th, 2025. https://www.cancercareontario.ca/en/drugformulary/drugs/monograph/44046
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3. Cancer Care Ontario. Capecitabine. Patient Info Sheet. Cancer Care Ontario. Accessed on January 13, 2026. Accessed at: Cancer Care Ontario | Cancer Care Ontario
4. Ontario Health - Cancer Care Ontario. Hepatitis B Virus Screening and Management for Patients Receiving Systemic Treatment. Systemic Treatment Program & Project Working Group. September 2022. Accessed on: January 12, 2026. Accessed from: | Cancer Care Ontario