

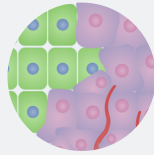


CHEMOTHERAPY AND ASSOCIATED TOXICITIES

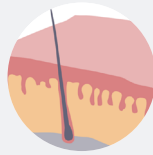


High-growth fraction cells

High-growth fraction cells are cells with a high percentage actively dividing. They include both healthy cells in the body and cancer cells. Chemotherapy affects both types.



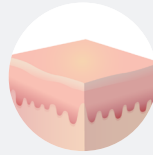
Cancer cells



Hair follicles



Gastrointestinal tract



Skin



Reproductive



Bone marrow

Chemotherapy side effects

1. Skin/tissue:

- Sun sensitivity
- Rashes, peeling, redness, itching
- Acne
- Darkening along veins
- Extravasation, tissue necrosis

2. Hair:

- Alopecia

3. Systemic:

- Carcinogenic, can cause other cancers

4. Kidney:

- Hyperuricemia
- Gout

5. Cardiac:

- Heart damage

6. GI:

- Stomatitis
- Diarrhea
- Nausea/vomiting

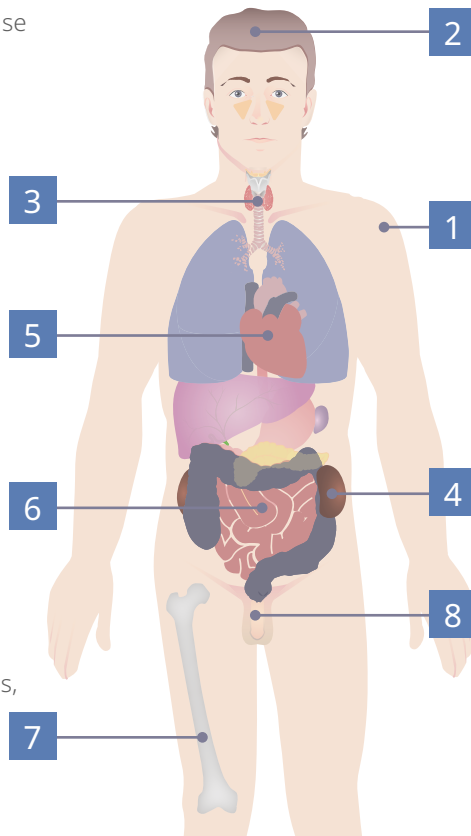
7. Bone marrow suppression:

- Decreased neutrophils, thrombocytes, erythrocytes

8. Reproductive:

Changes may be temporary or permanent.

- Reduced number and motility of sperm
- Chromosomal damage, can lead to birth defects
- Female infertility, menstrual changes
- Reduced ability to produce hormones



Treatment of side effects

Side effect	Treatment/education
Nausea/vomiting	Medications: <ul style="list-style-type: none"> • Serotonin antagonists (ondansetron) • Glucocorticoids (dexamethasone) • Cannabinoids (dronabinol) • Benzodiazepines (lorazepam) • Neurokinin-1 receptor antagonist (aprepitant) • Dopamine antagonists (metoclopramide) • Atypical antipsychotic (olanzapine)
Leukopenia	Precautions: Meat must be well done; avoid fresh flowers, fruit, vegetables.
Decreased neutrophils	Medications to increase neutrophils: colony-stimulating factor or granulocyte-macrophage colony-stimulating factor
Thrombocytopenia	Precautions: Reduce bleeding risk (use electric shaver, soft toothbrush, avoid activities that could involve injury or bruising).
Decreased RBCs	Medication to stimulate RBC production: erythropoietin (only if client doesn't have leukemia)
Anemia	Conserve energy.
Hyperuricemia	Medication: allopurinol