

APPENDIX: CHEMOTHERAPY SIDE EFFECT PROFILES

All chemotherapy drugs can cause side effects. No one can predict ahead of time what side effects you may experience or their severity. Some people experience only a few, mild side effects. Others experience many side effects, some of which can be severe enough to cause changes in the dose of the drug and the treatment schedule.

Every chemotherapy drug has the potential to cause *myelosuppression*, that is, to reduce the production of bone marrow cells. The severity of this side effect varies widely from one drug to another. Myelosuppression can result in *anemia*, low white blood cell counts (*leukopenia*), and low platelet counts (*thrombocytopenia*).

This appendix contains an alphabetical listing of the most commonly used chemotherapy drugs used to treat lung cancer. The drugs are listed by their generic name followed by their trade name and alternate name(s), if applicable. Each listing shows the known side effects of each drug according to whether they are more common, less common, or rare. It is possible to experience side effects that are not listed.

It is important to discuss with your doctor the possible side effects of any chemotherapy drug you will be taking. Any new symptoms experienced while on chemotherapy should be reported to your cancer doctor even if you are not certain whether the symptom is related to your treatment. *Chapter 10: Supportive Care* contains information about the management of treatment side effects.

The information contained in this section is based on public data listed on Medline Plus, a service of the U.S. National Library of Medicine and the National Institutes of Health. The Internet site can be accessed at www.nlm.nih.gov/medlineplus/druginformation.html.

Carboplatin (Paraplatin[®])

Type: alkylating agent

| Side Effects of Carboplatin | | |
|--|--|---|
| More Common | Less Common | Rare |
| pain at injection site nausea vomiting tiredness weakness temporary hair loss | black, tarry stools blood in urine cough or hoarseness lower back or side pain fever and/or chills numbness or tingling in fingers/toes painful or difficult urination pinpoint red spots on the skin skin rash or itching unusual bleeding or bruising | blurred vision ringing in ears sores in mouth wheezing |

Medical problems that may affect the use of carboplatin include chickenpox (including recent exposure), shingles (herpes zoster), hearing problems, infection, and kidney disease.

Cisplatin (Platinol[®])

Type: alkylating agent

| Side Effects of Cisplatin | | |
|--|---|---|
| More Common | Less Common | Rare |
| joint pain nausea vomiting loss of balance ringing in ears swelling of feet/legs tiredness weakness | loss of appetite and/or taste temporary hair loss diarrhea black, tarry stools blood in urine cough or hoarseness lower back or side pain fever and/or chills dizziness or faintness fast heartbeat painful or difficult urination pain at injection site pinpoint red spots on the skin swelling of the face unusual bleeding or bruising wheezing loss of reflexes numbness or tingling in fingers/toes trouble walking | agitation confusion blurred vision decreased ability to see colors trouble hearing muscle cramps sores in mouth |

Medical problems that may affect the use of cisplatin include chickenpox (including recent exposure), shingles (herpes zoster), gout, kidney stones, hearing problems, infection, and kidney disease.

Cyclophosphamide (Cytosan[®], Neosar[®])

Type: alkylating agent

| Side Effects of Cyclophosphamide | | |
|--|--|--|
| More Common | Less Common | Rare |
| cough or hoarseness loss of appetite nausea/vomiting fever and/or chills lower back or side pain missed menstrual period painful/difficult urination blood in urine fast heartbeat joint pain feet/lower leg swelling tiredness or weakness darkening of skin temporary hair loss | black, tarry stools pinpoint red spots on the skin unusual bleeding or bruising diarrhea stomach pain flushed or red face headache increased sweating skin rash itching or hives swollen lips dizziness confusion agitation | frequent urination redness/pain/swelling at injection site sores in mouth shortness of breath unusual thirst yellow skin (jaundice) |

Medical problems that may affect the use of cyclophosphamide include chickenpox (including recent exposure), shingles (herpes zoster), gout, kidney stones, infection, kidney disease, liver disease, and prior removal of the adrenal glands.

Docetaxel (Taxotere[®])

Type: taxane

| Side Effects of Docetaxel | | |
|---|--|--|
| More Common | Less Common | Rare |
| tiredness weakness weight gain swelling of abdomen swelling of face swelling of hands/feet anemia numbness or tingling in hands/feet diarrhea | black, tarry stools blood in urine cough or hoarseness difficult or painful urination lower back or side pain wheezing fever and/or chills pinpoint red spots on the skin difficulty breathing unusual bleeding or bruising | chest pain fast/irregular heartbeat shortness of breath dizziness or fainting |

| Side Effects of Docetaxel, continued | | |
|---|---|------|
| More Common | Less Common | Rare |
| nausea skin rash sores on lips/mouth weakness temporary hair loss | red, scaly areas of skin high or low blood pressure change in color of the nails loosening of the nails redness/pain at injection site headaches joint pain muscle aches vomiting | |

Medical problems that may affect the use of docetaxel include chickenpox (including recent exposure), shingles (herpes zoster), fluid in the lungs, infection, liver disease, and alcohol abuse.

Doxorubicin (Adriamycin®, Rubex®)

Type: anthracycline antibiotic

| Side Effects of Doxorubicin | | |
|--|---|---|
| More Common | Less Common | Rare |
| sores on lips/mouth nausea vomiting loss of appetite temporary hair loss | fast/irregular heartbeat pain at injection site shortness of breath swelling of feet/legs cough or hoarseness fever and/or chills joint pain lower back or side pain difficult or painful urination red streaks along injection site stomach pain darkening of soles and palms darkening of the nails diarrhea | skin rash or itching irregular heartbeat heart damage |

Medical problems that may affect the use of doxorubicin include chickenpox (including recent exposure), shingles (herpes zoster), gout, kidney stones, liver disease, and heart disease.

Etoposide (Etopophos[®], VePesid[®], Toposar[®], VP-16)

Type: plant alkaloid

| Side Effects of Etoposide | | |
|---|---|--|
| More Common | Less Common | Rare |
| tiredness weakness loss of appetite nausea vomiting change in taste temporary hair loss | black, tarry stools blood in urine cough or hoarseness fever and/or chills difficult or painful urination pinpoint red spots on skin sores on mouth or lips unusual bleeding or bruising diarrhea constipation stomach pain | fast heartbeat shortness of breath sweating swelling of face/tongue tightness in throat wheezing back pain difficulty walking numbness/tingling in extremities pain at injection site skin rash or itching decreased blood pressure |

Medical problems that may affect the use of etoposide include chickenpox (including recent exposure), shingles (herpes zoster), infection, kidney disease, and liver disease.

Fluorouracil (Adrucil[®], 5-FU)

Type: anti-metabolite

| Side Effects of Fluorouracil | | |
|---|---|---|
| More Common | Less Common | Rare |
| diarrhea heartburn sores on mouth/lips loss of appetite nausea vomiting skin rash or itching weakness temporary hair loss | black, tarry stools cough or hoarseness fever and/or chills lower back or side pain painful or difficult urination stomach cramps dry or cracked skin | blood in urine pinpoint red spots on skin unusual bleeding/bruising chest pain cough shortness of breath tingling in extremities pain in extremities trouble with balance |

Medical problems that may affect the use of fluorouracil include chickenpox (including recent exposure), shingles (herpes zoster), infection, kidney disease, and liver disease.

Gefitinib (Iressa®)

Type: tyrosine kinase inhibitor

| Side Effects of Gefitinib | | |
|-------------------------------|--|--|
| More Common | Less Common | Rare |
| diarrhea skin rash acne | dry skin itching nausea vomiting loss of appetite weight loss weakness | swelling of extremities vision changes shortness of breath cough eye irritation sores on mouth/lips unusual bleeding/bruising heart rhythm changes |

Medical problems that may affect the use of gefitinib include chickenpox (including recent exposure), shingles (herpes zoster), infection, and liver disease.

Gemcitabine (Gemzar®)

Type: anti-metabolite

| Side Effects of Gemcitabine | | |
|--|--|--|
| More Common | Less Common | Rare |
| shortness of breath black, tarry stools constipation diarrhea blood in urine cloudy urine pinpoint red spots on skin swelling of the hands/feet unusual bleeding/bruising tiredness weakness loss of appetite muscle pain nausea vomiting runny nose sweating trouble sleeping | cough or hoarseness fever and/or chills headache lower back or side pain painful or difficult urination pain in chest, arm or back pressure in chest slurred speech breathing difficulty wheezing weakness fast or irregular heartbeat high blood pressure drowsiness pain or redness at injection site numbness/tingling of extremities sores on mouth/lips flu-like symptoms hair thinning | change in color of skin skin rash hives or itching swelling of face/eyelids increased urination decreased urination yellow skin (jaundice) |

Medical problems that may affect the use of gemcitabine include chickenpox (including recent exposure), shingles (herpes zoster), infection, kidney disease, and liver disease.

Ifosfamide (Ifex[®])

Type: alkylating agent

| Side Effects of Ifosfamide | | |
|--|--|--|
| More Common | Less Common | Rare |
| blood in urine frequent urination painful urination nausea vomiting temporary hair loss | cough or hoarseness fever and/or chills lower back or side pain agitation confusion hallucinations tiredness dizziness redness, swelling, pain at injection site | black, tarry stools pinpoint red spots on skin unusual bleeding/bruising convulsions cough shortness of breath sores on mouth/lips sleepiness |

Medical problems that may affect the use of ifosfamide include chickenpox (including recent exposure), shingles (herpes zoster), infection, kidney disease, and liver disease.

Irinotecan (Camptosar[®], CPT-11)

Type: topoisomerase inhibitor

| Side Effects of Irinotecan | | |
|---|--|---|
| More Common | Less Common | Rare |
| diarrhea constipation stomach cramps or pain loss of appetite nausea vomiting black, tarry stools blood in urine pinpoint red spots on skin unusual bleeding or bruising weakness weight loss temporary hair loss | cough or hoarseness dizziness, lightheadedness, fainting fever and/or chills lower back or side pain painful or difficult urination runny or stuffy nose sore throat abdominal bloating or gas swelling of face, fingers, feet, lower legs decreased urination dry mouth increased thirst sores on mouth/lips wrinkled skin headache increased sweating indigestion skin rash | fast heartbeat irregular heartbeat puffiness of eyelids hives or itching tightness in chest wheezing |

Medical problems that may affect the use of irinotecan include chickenpox (including recent exposure), shingles (herpes zoster), infection, liver disease, and lung disease.

Methotrexate (Amethopterin[®], Folex[®], Mexate[®], MTX)

Type: anti-metabolite

| Side Effects of Methotrexate | | |
|--|---|--|
| More Common | Less Common | Rare |
| black, tarry stools blood in urine diarrhea stomach pain joint pain reddening of skin swelling of feet/legs sores on mouth/lips tiredness/weakness loss of appetite nausea/vomiting increased sun sensitivity | cough pinpoint red spots on skin shortness of breath unusual bleeding or bruising cough or hoarseness fever and/or chills lower back or side pain painful or difficult urination drowsiness yellow skin or eyes (jaundice) acne and/or boils skin rash or itching temporary hair loss | confusion seizures dizziness blurred vision |

Medical problems that may affect the use of methotrexate include chickenpox (including recent exposure), shingles (herpes zoster), infection, immune system disease, colitis, intestinal blockage, gout, kidney stones, kidney disease, liver disease, stomach ulcers, and alcohol abuse.

Mitomycin (Mitomycin C[®], Mutamycin[®])

Type: antibiotic

| Side Effects of Mitomycin | | |
|---|--|---|
| More Common | Less Common | Rare |
| loss of appetite nausea vomiting temporary hair loss | black, tarry stools decreased urine output cough or hoarseness or shortness of breath fever and/or chills lower back or side pain painful, difficult or bloody urination pinpoint red spots on skin or skin rash unusual bleeding or bruising sores on mouth/lips swelling of feet/legs numbness/tingling in extremities purple bands on the nails tiredness or weakness | pain/redness at injection site bloody vomiting |

Medical problems that may affect the use of mitomycin include chickenpox (including recent exposure), shingles (herpes zoster), infection, bleeding problems, and kidney disease.

Paclitaxel (Taxol[®])

Type: taxane

| Side Effects of Paclitaxel | | |
|---|--|--|
| More Common | Less Common | Rare |
| facial flushing skin rash or itching anemia diarrhea nausea vomiting burning/tingling in extremities joint pain muscle pain bone pain temporary, total hair loss fatigue | black, tarry stools blood in urine pinpoint red spots on skin unusual bleeding or bruising fever and/or chills cough or hoarseness lower back or side pain painful or difficult urination low blood pressure slow heartbeat | shortness of breath severe skin reaction pain/redness at injection site sores on mouth/lips swelling of face wheezing |

Medical problems that may affect the use of paclitaxel include chickenpox (including recent exposure), shingles (herpes zoster), infection, and heart rhythm problems.

Teniposide (Vumon[®], VM-26)

Type: plant alkaloid

| Side Effects of Teniposide | | |
|--|---|---|
| More Common | Less Common | Rare |
| facial flushing sores on mouth/lips fast heartbeat tiredness diarrhea nausea vomiting temporary hair loss | black, tarry stools blood in urine chills or fever hives or skin rash cough or hoarseness lower back or side pain painful or difficult urination pinpoint red spots on skin shortness of breath tightness in chest wheezing or troubled breathing unusual bleeding or bruising | decreased urine output swelling of face swelling of extremities yellow skin (jaundice) |

Medical problems that may affect the use of teniposide include chickenpox (including recent exposure), shingles (herpes zoster), infection, bone marrow disorders, Down syndrome, kidney disease, and liver disease.

Topotecan (Hycamtin[®])

Type: topoisomerase inhibitor

| Side Effects of Topotecan | | |
|--|---|---|
| More Common | Less Common | Rare |
| tiredness/weakness stomach pain burning/tingling in extremities constipation diarrhea fatigue headache loss of appetite muscle weakness nausea/vomiting sores on mouth/lips temporary hair loss | black, tarry stools blood in urine cough or hoarseness fever and/or chills lower back or side pain painful or difficult urination pinpoint red spots on skin shortness of breath troubled breathing unusual bleeding or bruising bruising/redness at injection site | fast heartbeat irregular heartbeat hives on face tightness in chest wheezing skin color change skin rash or itching |

Medical problems that may affect the use of topotecan include chickenpox (including recent exposure), shingles (herpes zoster), infection, and kidney disease.

UFT (Uracil + Ftorafur, Uracil + Tegafur[®])

Type: anti-metabolites

Note: Ftorafur is metabolized by the body into fluorouracil.

| Side Effects of UFT | | |
|--|---|------------------------------------|
| More Common | Less Common | Rare |
| diarrhea nausea vomiting loss of appetite temporary hair loss sores on mouth/lips | black, tarry stools cough or hoarseness fever and/or chills lower back or side pain painful, difficult, or bloody urination pinpoint red spots on skin unusual bleeding/bruising stomach cramps dry or cracked skin joint pain swelling of feet/legs darkening of the skin skin rash and itching irritability/mental depression/nervousness headaches numbness/tingling in extremities | chest pain trouble with balance |

Medical problems that may affect the use of UFT include chickenpox (including recent exposure), shingles (herpes zoster), infection, kidney disease, and liver disease.

Vinblastine (Velban[®])

Type: plant alkaloid

| Side Effects of Vinblastine | | |
|--|---|--|
| More Common | Less Common | Rare |
| cough or hoarseness temporary hair loss | blood in urine fever and/or chills lower back or side pain painful or difficult urination redness/pain at injection site pinpoint red spots on skin unusual bleeding or bruising joint pain sores on mouth/lips swelling of feet/legs bone pain muscle pain nausea/vomiting constipation | black, tarry stools difficulty walking dizziness double vision drooping eyelids headache jaw pain mental depression numbness/tingling in extremities pain in extremities testicular pain weakness fast heartbeat |

Medical problems that may affect the use of vinblastine include chickenpox (including recent exposure), shingles (herpes zoster), infection, gout, kidney stones, and liver disease.

Vincristine (Oncovin[®], Vincasar PFS[®], Vincrex[®])

Type: plant alkaloid

| Side Effects of Vincristine | | |
|---|---|--|
| More Common | Less Common | Rare |
| weakness temporary hair loss numbness/tingling in extremities constipation | pain/redness at site of injection diarrhea and/or bloating loss of appetite or weight loss nausea/vomiting/stomach cramps difficulty walking drooping eyelids joint pain lower back or side pain testicular pain swelling of feet/legs agitation, confusion, depression bed-wetting painful or difficult urination dizziness or lightheadedness lack of sweating trouble sleeping skin rash | black, tarry stools blood in urine cough or hoarseness fever and/or chills pinpoint red spots on skin unusual bleeding/bruising seizures decreased urination increased urination hallucinations sores on mouth/lips jaw pain blurred or double vision headache impotence |

Medical problems that may affect the use of vincristine include chickenpox (including recent exposure), shingles (herpes zoster), infection, gout, kidney stones, liver disease, nerve disease, and muscle disease.

Vindesine (Eldisine[®])

Type: plant alkaloid

| Side Effects of Vindesine | | |
|--|---|--|
| More Common | Less Common | Rare |
| temporary hair loss numbness/tingling in extremities constipation | black, tarry stools diarrhea chest pain cough shortness of breath fever and/or chills difficult or painful urination sore throat sores on mouth/lips swollen lymph glands tiredness or weakness loss of appetite and/or weight loss nausea and/or vomiting stomach pain muscle or bone pain | double vision blurred vision blindness seizures difficulty walking drooping eyelids headache jaw pain testicular pain unusual bleeding/bruising |

Medical problems that may affect the use of vindesine include chickenpox (including recent exposure), shingles (herpes zoster), infection, Charcot-Marie-Tooth syndrome, blood disorders, liver disease, nerve disease, and muscle disease.

Vinorelbine (Navelbine[®])

Type: plant alkaloid

| Side Effects of Vinorelbine | | |
|---|---|---|
| More Common | Less Common | Rare |
| tiredness weakness constipation loss of appetite nausea vomiting | cough or hoarseness fever and/or chills lower back or side pain redness or pain at injection site sore throat numbness/tingling in extremities diarrhea jaw pain joint pain muscle pain temporary hair loss | chest pain shortness of breath sores on mouth/lips black, tarry stools dark or bloody urine chills fast heartbeat indigestion/loss of appetite painful or difficult urination stomach pain or bloating pinpoint red spots on skin unusual bleeding/bruising skin rash yellow skin (jaundice) |

Medical problems that may affect the use of vincristine include chickenpox (including recent exposure), shingles (herpes zoster), and infection.