

Patient Treatment Information

FLOX

Your chemotherapy treatment is called FLOX. It is commonly used to treat colon and rectal cancer and has also been used to treat other diseases. FLOX is made up of three chemotherapy drugs:

- 5-fluorouracil (5-FU), (flure-oh-YOOR-a-sill) or Aducril® (Add-roo-sil)
- leucovorin (loo-koe-VOR-in)
- oxaliplatin (ox-AL-i-pla-tin) or Eloxatin® (ee-LOX-a-tin)

5-FU and oxaliplatin prevent cancer cells from dividing and growing, and can eventually cause cancer cells to shrink and die. Leucovorin is used to increase the activity of 5FU.

What Do I Need to Know Before Starting Treatment?

Be sure to tell your healthcare provider about any prescription or over-the-counter products you are taking, including dietary supplements, vitamins, herbal medicines and homeopathic remedies.

Use an effective birth control method while you are taking these drugs. Chemotherapy drugs can cause harm to a fetus, so be sure to tell your healthcare provider right away if you or your partner become pregnant.

Avoid breastfeeding during treatment. It is not known if these drugs pass into breast milk.

Some chemotherapy drugs can cause sterility. Talk with your healthcare provider about your options if you want to have children in the future.

Do not get any immunizations or vaccinations while taking chemotherapy drugs without the approval of your healthcare provider.

What Do I Need to Know Before Starting FLOX?

5-FU can cause heart problems such as a heart attack, irregular heart beat, angina and heart failure. This side effect may be more common in patients with a history of heart disease. Call your healthcare provider immediately if you have back pain, flushing or chest tightness.

In rare cases, 5-FU can cause bleeding in the stomach. Tell your healthcare provider if you vomit blood or pass black, tarry stools.

Oxaliplatin commonly causes some nerve cells to stop functioning properly. This condition is called neuropathy (see “What Are the Possible Side Effects?”). Oxaliplatin can cause two types of neuropathy:

- Early onset neuropathy starts within a few hours to two days after starting treatment and usually goes away within 14 days. Exposure to cold temperatures and cold objects can cause symptoms or make symptoms worse. Avoid cold weather, cold foods and cold drinks for five days after treatment.
- Oxaliplatin can cause chronic neuropathy that can last for weeks or months. Chronic neuropathy usually starts after several treatments with oxaliplatin.

A less common side effect of oxaliplatin-related neuropathy is called pharyngolaryngeal dysesthesia. This is the sensation of tightness or discomfort in the throat, which can make it feel difficult to breathe or swallow. Although this symptom may be frightening, it is just a sensation and does not interfere with breathing. The sensation usually goes away on its own after a few minutes.

Oxaliplatin can cause irritation if it accidentally leaks out of the vein. Tell your healthcare provider right away if you have redness, pain, burning or swelling around the injection site during your treatment.

Oxaliplatin can damage the kidneys. Tell your healthcare provider if you have a history of kidney disease.

Oxaliplatin can cause a severe allergic reaction a few minutes after treatment. Tell your healthcare provider right away if you develop a rash, swollen lips or tongue or if you have trouble breathing.

In rare cases, oxaliplatin can cause a lung condition called pulmonary fibrosis. Tell your healthcare provider immediately if you suddenly develop a cough or are short of breath,

In rare cases, the allergic reactions and pulmonary fibrosis caused by oxaliplatin can be life-threatening.

Your treatment can interfere with other medicines, including:

- Warfarin (Coumadin®)
- Cimetidine (Tagamet®)
- Drugs that cause harm to the kidney, such as amphotericin B, tobramycin, gentamicin or amikacin
- Thyroid medicines
- Chloramphenicol (Chloromycetin®)
- Ganciclovir
- Interferon

Please note this list is a summary and does not contain all possible drug interactions. Contact your healthcare provider if you are taking any medications that can interact with your treatment.

You should not take this treatment if you:

- Are allergic to 5FU, leucovorin, oxaliplatin, other platinum agents or any components of these drugs
- Have a condition known as dihydropyrimidine dehydrogenase (DPD) deficiency

How Is the Treatment Given?

Your healthcare provider will give you your treatment by injection into a vein. The dose you receive will be based on your weight and height. Your healthcare provider will determine the number of treatments you receive.

You may be given medicines to help prevent and control nausea and vomiting before you receive your treatment. These medicines may be given either by mouth or by injection into a vein.

If you are given any medicine to take at home, do not share it with others. Sharing this medication with anyone else could be harmful.

When Should I Call My Healthcare Provider?

Call your healthcare provider right away if you have any of the following symptoms:

- Shaking chills or fever 100.5 degrees F or higher
- Unusual bleeding, easy bruising or pinpoint red spots on your skin
- Vomiting that is severe or lasts several hours
- Painful or frequent urination or blood in your urine
- Diarrhea that causes an additional four bowel movements a day, diarrhea that lasts more than one day, diarrhea at night or diarrhea with fever, cramps or bloody stools
- Irregular or rapid heart beat, chest pain, chest tightness or shortness of breath
- Dizziness or feeling lightheaded
- Inability to eat or weight loss

What Are the Possible Side Effects?

All drugs can cause side effects, but every person reacts differently to each drug. The following chart lists the possible side effects that can occur with your treatment, how to recognize and minimize symptoms and possible treatments. The side effects are grouped by how often the side effect occurs: Common (occurs in more than 25 percent of patients), Less Common (occurs in 5 to 25 percent of patients) or Rare (occurs in less than 5 percent of patients).

Side Effect	How to Minimize Side Effect	Possible Treatments
Risk of Infection (Common) <ul style="list-style-type: none">• Fever and chills• Painful urination• Sore throat and cough• Nasal congestion• Swelling or redness of the skin at the site of a wound	<ul style="list-style-type: none">• Wash your hands often.• Brush and floss your teeth daily.• Clean cuts right away with warm water, soap and antiseptic.• When your white blood cell count is low, stay away from crowds and people with colds or other illnesses.	<ul style="list-style-type: none">• You may be given medicine to increase your white blood cell count.• You may be given an antibiotic to treat or prevent infection.• Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.

Side Effect	How to Minimize Side Effect	Possible Treatments
<p>Nausea/Vomiting (Common. Symptoms are generally mild to moderate.)</p> <ul style="list-style-type: none"> Feeling queasy or sick to your stomach 	<ul style="list-style-type: none"> Eat small, frequent meals and bland foods—such as bananas, rice, applesauce and toast. Eat food cold or at room temperature so the smell of food will not bother you. Avoid fried, spicy or fatty foods. Eat and drink slowly. Drink plenty of liquids during the day, but to avoid bloating, drink small amounts of liquid during meals. 	<ul style="list-style-type: none"> You will be given medicine to help reduce nausea and vomiting.
<p>Diarrhea (Common. Symptoms are generally mild to moderate but can be severe.)</p> <ul style="list-style-type: none"> Loose or watery stools several times a day Abdominal cramping, gas and bloating 	<ul style="list-style-type: none"> Eat small, frequent meals and bland foods—such as bananas, rice, applesauce and toast. Avoid caffeine; alcohol; raw fruits and vegetables; raw eggs; undercooked meats; spicy, fatty and greasy foods; milk and dairy products; foods that cause gas, such as beans and other legumes; high fiber and high-fat foods; foods left un-refrigerated for more than two hours (one hour for egg dishes and cream or mayonnaise-based foods); bulk laxatives; and stool softeners. 	<ul style="list-style-type: none"> Drink eight to ten glasses of clear liquids every day. Your healthcare provider may prescribe medicine to help treat diarrhea.
<p>Mouth Sores and Pain (Common. Symptoms are generally mild to moderate.)</p> <ul style="list-style-type: none"> Pain, swelling, and redness of the mouth, tongue, and throat “Coated tongue” Difficulty talking, swallowing or eating Bleeding ulcers and infection 	<ul style="list-style-type: none"> Brush teeth two to four times a day using a soft bristle brush and fluoride toothpaste. Use non-waxed dental floss daily. Ask your healthcare provider to recommend a mouthwash that does not contain alcohol. Sip water during the day and use sugar-free candy or gum to keep your mouth wet. Eat food cold or at room temperature. Eat soft or pureed food. Avoid food that is acidic, spicy, salty, dry or rough, such as toast. 	<ul style="list-style-type: none"> You may be given medicine to help treat pain. You may be given medicine to treat fungal or viral infections.
<p>Neuropathy (Common. Symptoms are generally mild to moderate but can be severe.)</p> <ul style="list-style-type: none"> Numbness or tingling feeling in the hands or feet Muscle cramps Loss of balance Difficulty buttoning buttons or picking up objects Decreased awareness of heat or cold in fingertips and toes Difficulty hearing 	<ul style="list-style-type: none"> Try to avoid the cold or extreme heat. Wear mittens or gloves, socks and scarves. If your fingers are numb, be careful with sharp objects. Beware of hot coffee mugs, pots and pans and dishwasher—you may not feel the heat until you are burned. If you feel unsteady, be careful on stairs and in the shower. Avoid exposure to cold, including cold foods and drinks, for five days after treatment. 	<ul style="list-style-type: none"> Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.
<p>Hand-Foot Syndrome (Common. Symptoms are generally mild to moderate.)</p> <ul style="list-style-type: none"> Swelling or redness in the hands and feet that can prevent normal activity Cracked or peeling skin Tingling, numbness, or pain in the hands or soles of the feet 	<ul style="list-style-type: none"> Wear gloves to wash dishes. Avoid using harsh household cleaners. Avoid prolonged exposure to heat or pressure. Use creams or moisturizers regularly. Try covering your hands with cotton gloves. Avoid perfume, cologne or aftershave since these products can be irritating to the skin. 	<ul style="list-style-type: none"> Your healthcare provider may prescribe a cream to help with skin reactions. Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.
<p>Nail Changes (Less Common)</p> <ul style="list-style-type: none"> Darkening of the nails that usually grows out with the nail Vertical or horizontal bands on the nails 	<ul style="list-style-type: none"> Trim nails often and keep them clean. Wear gloves for cleaning and gardening to minimize damage and prevent infection. Don’t wear nail polish or false fingernails until the nails have grown out and returned to normal. 	<ul style="list-style-type: none"> You may be given an antibiotic if there is an infection in the nail bed.

Side Effect	How to Minimize Side Effect	Possible Treatments
Alopecia or Hair Loss (Less Common) <ul style="list-style-type: none"> • Hair coming out in your brush, in the shower or on your pillow after sleeping • Loss of body hair 	Alopecia cannot be prevented but here are tips to help you cope with your hair loss: <ul style="list-style-type: none"> • Use a soft hairbrush. Do not use brush rollers, color treat your hair, or get a permanent. • Use a mild shampoo and avoid daily washing. • Avoid using a hairdryer, or use a low setting if you must use one. • Have your hair cut short; this will make it look fuller. • Your insurance might cover a wig. Ask your doctor for a prescription for a "hair prosthesis" if you feel a wig is right for you. Try to shop for a wig before losing a lot of hair so the color and style can be better matched. • Be sure to use sunscreen or wear a hat or scarf to protect your scalp from the sun. 	
Anorexia or Appetite Loss (Less Common) <ul style="list-style-type: none"> • Not having an appetite • Feeling too nauseated to eat • Metallic or medicinal taste • Change in taste causing dislike for certain foods 	<ul style="list-style-type: none"> • Try eating six to eight small meals or snacks each day instead of three larger meals. • Vary your diet and try new foods and recipes. • Take a walk before meals, when possible. This may make you feel hungrier. • Eat with friends or family. When eating alone, listen to the radio or watch TV. 	<ul style="list-style-type: none"> • Cook dinners ahead of time and freeze them in small portions so that cooking smells are minimized. • Let others help with food, but ask that foods be prepared in small portions that can be frozen. And don't hesitate to let them know which foods to avoid. • Add mild spices to change flavor. • It might be helpful to have a program, such as Meals on Wheels, deliver food to you.
Bleeding (Less Common) <ul style="list-style-type: none"> • Unusual bleeding or easy bruising • Black or tar-like stools • Blood in your urine • Pinpoint red spots on your skin • Bleeding gums or nose bleeds 	<ul style="list-style-type: none"> • Avoid aspirin and aspirin-like medications, such as ibuprofen. • Use caution with sharp objects, such as razors and nail cutters. • Avoid activities that can cause cuts, bumps and bruises. 	<ul style="list-style-type: none"> • You may be given medicine to increase your platelet count. • Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.
Anemia (Rare) <ul style="list-style-type: none"> • Fatigue or weakness • Dizziness • Pale skin • Feeling out of breath • Feeling cold 	<ul style="list-style-type: none"> • Plan rest periods throughout the day. • Organize daily activities so that you conserve your energy. • Try to eat a well balanced diet and drink plenty of fluids. • Stand up slowly to avoid getting dizzy 	<ul style="list-style-type: none"> • You may be given medicine to increase your red blood cell count. • Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.

What Are the Other Possible Side Effects?

The chart below lists additional side effects found with the individual drugs in this treatment. It does not list all possible side effects. For more information, talk with your healthcare provider.

Common Side Effects	Less Common Side Effects	Rare Side Effects
<ul style="list-style-type: none"> • Skin reactions, such as rash and discoloration • Fatigue or weakness 	<ul style="list-style-type: none"> • Shortness of breath • Cough or runny nose • Pain in the chest, back, joints or muscles • Headache • Insomnia 	<ul style="list-style-type: none"> • Sensitivity of the skin to the sun • Blood clots in the lungs or legs and related conditions, such as stroke • Heart attack

Notes

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