

Patient Treatment Information

GEMCITABINE + RADIATION THERAPY

Your chemotherapy treatment is called gemcitabine + radiation therapy. It is commonly used to treat pancreatic cancer and has also been used to treat other diseases. Your treatment is made up of a chemotherapy drug, gemcitabine (jem-SITE-a-been) or Gemzar (JEM-zar), and radiation treatment.

Gemcitabine prevents cancer cells from dividing and growing, and can eventually cause the cancer cells to shrink and die. Radiation therapy directs high energy x-rays to cancerous areas, killing cancer cells and causing tumors to shrink or stop growing.

What Do I Need to Know Before Starting Chemotherapy?

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 This Treatment?

Gemcitabine can cause mild, flu-like symptoms, such as fever, chills, muscle pain, weakness, headache and cough. Your healthcare provider can recommend treatments for these symptoms.

Gemcitabine can cause lung problems. In rare cases, this side effect can be severe. Call your healthcare provider if you have trouble breathing.

Radiation treatment is not painful, but it can cause side effects. Side effects usually take a few weeks to appear and can last two to four weeks after your treatment has ended. In some cases, chronic side effects develop months to years after radiation treatment. The most common side effects are fatigue, skin reactions, nausea, diarrhea, constipation and loss of appetite.

Your treatment can interact with other medicines, including warfarin (Coumadin).

You should not take this treatment if you are allergic to gemcitabine or any of its components.

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.

Your radiation treatment will be delivered by a large x-ray machine called a linear accelerator or cobalt machine. The machine generates a beam of x-rays that is targeted at the tumor site. You will be exposed to radiation for only a few seconds or minutes.

What Are the Important Side Effects?

All drugs can cause side effects, but every person reacts differently to each drug. The following chart lists important side effects that can occur with your treatment, how often the side effect occurs (common, less common or rare), how to recognize and minimize side effects and possible treatments. Call your healthcare provider if you have any questions or concerns about side effects.

Potential Side Effects	How to Minimize Side Effects	Possible Treatments
Anemia (Common) <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.
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.
Nausea/Vomiting (Common) <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, do not drink during meals. 	<ul style="list-style-type: none"> • You will be given medicine to help reduce nausea and vomiting.
Anorexia or Appetite Loss (Common) <ul style="list-style-type: none"> • Not having an appetite • Feeling too nauseous 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.
Radiation Skin Reactions (Common) <ul style="list-style-type: none"> • Red or darkened skin • Dry, irritated, peeling, itchy or sensitive skin • Increased sensitivity to sunlight 	<ul style="list-style-type: none"> • Do not rub or scratch the treated area. • Wash the area gently with tepid water and mild soap. Do not scrub. • Avoid exposing the area to hot or cold. • Protect the area from the sun for at least one year after treatment ends. Use sunscreen and avoid direct sunlight. • Wear loose fitting clothing and comfortable fabrics around the treated area. • Check with your healthcare provider before applying skin products on the treated area. 	<ul style="list-style-type: none"> • Your healthcare provider may need to delay radiation treatment.

Potential Side Effects	How to Minimize Side Effects	Possible Treatments
<p>Mouth Sores and Pain (Less Common)</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>Diarrhea (Less Common)</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>Constipation (Less Common)</p> <ul style="list-style-type: none"> • Difficulty in passing stools • Decrease in the normal frequency of bowel movements • Small, hard, dry stools • Bloating, gas, cramps and pain 	<ul style="list-style-type: none"> • Drink plenty of fluids to help loosen your bowels. Drink warm or hot liquids if you do not have mouth sores. • Eat foods that are high in fiber, such as bran, vegetables, whole wheat breads and fruit. Add prunes or prune juice, which act as laxatives. • Exercise can help loosen bowels. 	<ul style="list-style-type: none"> • Your healthcare provider may recommend a stool softener.
<p>Alopecia or Hair Loss (Less Common)</p> <ul style="list-style-type: none"> • More than normal amount of hair loss in your brush, in the shower or on your pillow after sleeping • Loss of body hair 	<p>Alopecia cannot be prevented but here are tips to help with hair loss:</p> <ul style="list-style-type: none"> • Use a soft hairbrush. Do not use brush rollers, color treat your hair or get a permanent. • Avoid daily hair washing, use a mild shampoo and 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. If you would like a wig, ask your healthcare provider for a prescription for a “hair prosthesis”. Your hair color and style can be better matched if you shop for a wig before losing a lot of hair. • Use sunscreen or wear a hat or scarf to protect your scalp from the sun. 	
<p>Bleeding (Rare)</p> <ul style="list-style-type: none"> • Unusual bleeding, easy bruising • Black or tar-like stools • Blood in your urine • Pinpoint red spots on your skin • Bleeding gums or nosebleeds 	<ul style="list-style-type: none"> • Avoid aspirin and aspirin-like drugs, 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.
<p>Neuropathy (Rare)</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. 	<ul style="list-style-type: none"> • Your healthcare provider may decrease your chemotherapy dose or delay further chemotherapy.

