About Your Photodynamic Therapy (PDT) for Esophageal or Lung Cancer

This information explains what PDT is. It also explains what to expect before, during, and after PDT to treat esophageal or lung cancer.

About PDT

PDT is a cancer treatment that uses a photosensitizing (FOH-toh-SEN-sih-ty-zing) agent and a special type of light to kill cancer cells. A photosensitizing agent is a medication that makes cells very sensitive to light. For your PDT, you’ll get the photosensitizing agent Photofrin® (porfimer sodium).

PDT is a 2-step treatment.

- First, a nurse will slowly inject the Photofrin into your bloodstream. This is called an intravenous (IV) injection.
- Two days later, you’ll have a bronchoscopy (bron-KOS-koh-pee) or endoscopy (en-DOS-koh-pee). The procedure you have depends on where your cancer is located. During your bronchoscopy or endoscopy, your healthcare provider will use a special laser to activate the photosensitizing agent and kill the cancer cells.

If you’re having a bronchoscopy, you’ll have a second bronchoscopy 2 days later to remove any leftover cells. Most people having an endoscopy don’t need to have a second endoscopy. Your healthcare provider will talk with you about what to expect. Read the section “About Your Bronchoscopy or Endoscopy” for more information.
Getting Ready for Your PDT

Ask about your medications

Make sure your healthcare team knows all the medications you’re taking, including prescription and over-the-counter medications, dietary supplements, patches, and creams. Some medications can make your skin more sensitive to light. This is called photosensitivity. If any of your medications increase your photosensitivity, you might need to stop taking them before your PDT.

Plan to avoid bright light

Starting right after your Photofrin injection, you’ll be photosensitive (sensitive to light). The photosensitivity can last for 4 to 6 weeks or longer. During this time, you’ll need to be careful to avoid bright light, including sunlight.

Your healthcare provider will talk with you about what to do while you’re photosensitive. They’ll also give you a photosensitivity safety kit. The kit includes:

- A wide-brim hat with a flap to cover your neck
- Sunglasses
- Elbow-length gloves
- A PDT pocket card

For more information about protecting yourself while you’re photosensitive, read the section “How to Manage Photosensitivity.”

About Your IV Photofrin Injection

You’ll get your IV Photofrin injection during an outpatient clinic appointment.

On the day of your appointment, wear long pants, a long-sleeved shirt, socks, and shoes. Choose opaque (not see-through) clothing. You can check if clothing is opaque by holding it up to a light. If you can see the light through the clothing, it’s not completely opaque. You should also bring an opaque scarf and the items from your photosensitivity safety kit.
During your appointment, a nurse will place an IV line in one of your veins, usually in your arm or hand. Then, they’ll inject the Photofrin into your bloodstream over about 10 minutes. You shouldn’t feel any pain or discomfort during the injection. If you do, tell your nurse.

You can leave the clinic right away after your injection. Remember that you’ll be photosensitive. Follow the guidelines in the “How to Manage Photosensitivity” section.

**About Your Bronchoscopy or Endoscopy**

Your bronchoscopy or endoscopy will be 48 to 72 hours (2 to 3 days) after your IV Photofrin injection. It will be done at Memorial Sloan Kettering Cancer Center.

**What to expect if you’re having a bronchoscopy**

If you’re having a bronchoscopy, your nurse will give you the resource *About Your Flexible Bronchoscopy* ([www.mskcc.org/pe/flexible_bronchoscopy](http://www.mskcc.org/pe/flexible_bronchoscopy)). You can also access it online. Read this resource for information about how to get ready and what to expect during your procedure.

You may need to stay in the hospital after one or both of your bronchoscopies so your care team can make sure you recover safely. Usually, your healthcare provider will decide this during or right after your bronchoscopy based on what they see during your procedure.

**What to expect if you’re having an endoscopy**

If you’re having an endoscopy, your nurse will give you the resource *About Your Upper Endoscopy* ([www.mskcc.org/pe/upper_endoscopy](http://www.mskcc.org/pe/upper_endoscopy)). You can also access it online. Read this resource for information about how to get ready and what to expect during your procedure.

You’ll be able to leave the hospital after your endoscopy. Most people don’t need to have a second endoscopy procedure. If you do need a second procedure, it will be 2 days after your first procedure.

**Follow-up appointment**
Your doctor’s office will call you to schedule a follow-up appointment after your bronchoscopy or endoscopy.

Your follow-up appointment will be within ____ weeks of your procedure.

**How to Manage Photosensitivity**

You’ll be most photosensitive during the first 3 to 7 days after your IV Photofrin injection. Your photosensitivity will slowly decrease as you’re exposed to ambient light (such as the light from a lamp with a lampshade) over time. This is because ambient light breaks down the Photofrin in your skin.

Follow the photosensitivity precautions below for at least the first 30 days after your IV Photofrin injection.

- Don’t expose your skin or eyes to bright light. Examples of bright light include:
  - Direct sunlight
  - Skylights
  - Light bulbs without a lampshade
  - Halogen lights and spotlights
  - Exam lights (such as those used by a dentist or eye specialist)
    - Tell your PDT healthcare provider before you see any other healthcare providers while you’re photosensitive. Your PDT healthcare provider will talk with them about what they need to do to keep you safe.

- Wear the following protective clothing and sunglasses whenever you leave your home, including cloudy days, nighttime, and while riding in cars:
  - A long sleeved-shirt, long pants, a scarf, shoes, and socks. Choose opaque clothing.
  - The sunglasses, wide-brimmed hat, and elbow-length gloves from your photosensitivity safety kit.

- Carry the PDT pocket card with you. If you need medical care while you’re photosensitive, show it to the healthcare provider.
- Group your errands together. Do them at night, if you can. Remember to wear protective clothing.
- You don’t need to wear sunscreen. Sunscreen doesn’t protect your skin from photosensitivity.
- It’s okay to expose your skin to light from electronics (such as a TV, cell phone, or computer). Try not to be too close to large screens. If you’re close to a large screen, turn down the screen’s brightness, if you can.
- Avoid heating pads.

You can also make sure you’re getting a safe amount of light by measuring the number of lux you’re exposed to. A lux is a unit used to describe the amount of light in an area. While you’re photosensitive, you should only be exposed to 200 lux of light or less. You can measure lux using an app on your smartphone, such as the Lux Light Meter Pro app.

Don’t stay in complete darkness. You can have lights on inside your house, as long as they’re covered with a shade. Starting 30 days after your IV Photofrin injection, you can also open your curtains on dull, cloudy days. The ambient light in your home will break down the Photofrin in your skin over time.

**Paper Bag Test**

Thirty days after your IV Photofrin injection, do a paper bag test to check your level of photosensitivity. This will help you know if you need to keep following photosensitivity precautions.

To do a paper bag test:

1. Get a brown paper lunch bag.
2. Cut a small hole in the bag. The hole should be about 2 inches (5 centimeters) across.
3. Put your hand into the bag so the hole is over the back of your hand (see Figure 1).
4. With the paper bag over your hand and the rest of your body covered, expose the hole to sunlight for 10 minutes.
   - If you notice a skin reaction (such as redness or discomfort), stop exposing the hole to sunlight right away.

   ![Skin Reaction Example]

   Figure 2. An example of a skin reaction

   - If you don’t notice a reaction, wait for 12 hours, then check the area again. Some people have a delayed reaction.

If you have a skin reaction within 12 hours of the paper bag test, you’re still photosensitive. Keep following photosensitivity precautions for 1 week. Then, repeat the paper bag test.

If you don’t have a skin reaction, you can slowly start exposing yourself to bright light, including sunlight.
When to Call Your Healthcare Provider

Call your healthcare provider if:

- Any area of your skin has swelling, redness, blistering, or all 3. These are signs of a skin burn.
- You have any questions or concerns.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.