

Photodynamic Therapy

Treatment for actinic keratosis

This handout explains photodynamic therapy, a treatment that is used to treat a skin problem called actinic keratosis. It includes how to prepare for the therapy, what to expect, and possible side effects.

What is photodynamic therapy?

Photodynamic therapy (PDT) is a treatment that uses special drugs called *photosensitizers*, along with light, to kill abnormal cells in the body. The drugs only work after they have been activated or “turned on” by certain kinds of light.

PDT is often used to treat *actinic keratosis*. The treatment involves applying a drug *topically* (directly on the skin).



You will sit in front of special blue lights for part of your phototherapy treatment.

What is actinic keratosis?

Actinic keratosis (AK) is a type of skin growth (*lesion*). Symptoms of AK include rough, scaly areas or dry patches of skin. If these lesions are not treated, there is a small risk that they can turn into skin cancer. Doctors call AK a “precancerous condition.”

How does PDT work to treat AK?

PDT is done in the Dermatology Clinic by a nurse with special training. The procedure has 2 parts:

- First, a drug called Levulan Kerastick (*aminolevulinic acid*) is applied to the areas of your skin where there are AK lesions. The drug is absorbed by the AK cells and makes them very sensitive to light.
- You will then need to wait up to 3 hours in the clinic, depending on where your lesions are. This is the *incubation* time.

- After your incubation time, your lesions are exposed to a special blue light. A reaction occurs in the AK cells and they are destroyed.

Are there any risks involved in PDT?

You should not have PDT if you:

- Are very sensitive to porphyrins or any ingredients in Levulan
- Have *photodermatoses*, since PDT may cause *phototoxic* or *photo-allergic* reactions

How do I prepare for PDT?

- Please do not schedule your procedure:
 - Within 1 month of an important social or family event
 - If you will need to travel within 48 hours before or after PDT
- Tell your provider:
 - If you have ever had cold sores or fever blisters. They may want to prescribe a medicine to prevent these skin problems after your procedure.
 - About all medicines, supplements, and natural or herbal remedies you take. Some medicines can increase your *photosensitivity* (sensitivity to light).
- Unless provider tells you otherwise, stop using all products that contain *retinol* starting 2 weeks before your treatment.
- Make sure that you will be able to stay indoors and out of direct sunlight for 48 hours (2 full days) after your treatment.

On the Day of Your PDT

- Do **not** wear makeup or apply any medicines or ointments to the skin that will be treated.
- Bring clothing to cover the treatment areas after your PDT. Dark clothing with a tight weave is best. If we are treating you:
 - **Face:** Bring a wide brim hat, scarf, and sunglasses. We advise that you bring someone with you who can drive you home. This will let you fully cover your face during the ride.
 - **Arms or hands:** Bring a long sleeve shirt and gloves.
 - **Scalp:** Bring a hat.

- Plan to spend 3 hours in the Dermatology Clinic on the day of your PDT. We suggest you bring:
 - A book or electronic device so you have something to do during the 2-hour incubation time
 - A snack and drink since you cannot leave the clinic during this time

What to Expect

- In the clinic, we will ask you to wash the area that will be treated.
- We will then:
 - Scrub the treatment areas with isopropyl alcohol to make sure your skin is very clean
 - Apply a special solution to the treatment area
- Next, we will escort you to the clinic waiting room for the incubation time. After 2 hours, we will escort you to an exam room.
- We will ask you to wear special goggles to protect your eyes. We will then position you in front of a special blue light.
- The light will be turned on for 16 minutes and 40 seconds. This is called the *illumination phase*.
- You will feel a stinging or burning sensation during this phase. Some people say it is like having a severe sunburn. Staff will be present to help you. We can provide a hand-held fan and cool compresses to lessen your discomfort. When the treatment is done, we will turn off the blue light.
- You will then gently wash the treatment area to remove any leftover Levulan.

Protecting Your Skin After PDT

- Before you leave the clinic:
 - We will apply a sunblock to the treatment area.
 - You will need to put on on your protective clothing.
- **For 48 hours after your PDT, you must stay indoors and avoid direct sunlight.** Even small amounts of sunlight can reactivate the medicine and cause severe sunburn.

What are the side effects?

Side effects from PDT include:

- **Pain and discomfort** in the treatment area. This pain should ease after the treatment is over, but it can last up to 24 hours. To ease the pain:
 - Take ibuprofen (Advil, Motrin), unless your doctor has told you not to. Follow the dose instructions on the label.
 - Apply cold packs to the treatment area for 5 to 10 minutes every few hours. **Do not apply ice directly to your skin.** Place a clean towel between the cold pack and your skin.
- **Redness and swelling** in the treatment area. These symptoms are usually worst 1 to 2 hours after PDT. They should go away within 1 to 2 weeks. Rarely, redness lasts longer than 2 months.
- **Peeling and itching** of the skin. These problems usually occur within 24 hours of the treatment. They usually last 4 to 7 days, but may last up to 2 weeks. To ease these symptoms:
 - Wash the treatment area with mild skin cleanser such as Cetaphil or Cerave.
 - Apply a thin layer of Vaseline or Aquaphor ointment to the treatment area 2 times a day until these symptoms go away.
- **Crusting** of the treatment area. This can occur 24 to 48 hours after your treatment. To ease this symptom:
 - Apply Vaseline or Aquaphor ointment to the crusting.
 - Do **not** use makeup, shea butter, vitamin E oil, aloe, or any other creams or lotions until the crusting has gone away.
- **Changes in the color of your skin.** These changes are rare and usually resolve over time. Less than 1% of people (fewer than 1 out of 100 people) who have PDT have long-term changes in the color of their skin.

Questions?

Your questions are important. Call your healthcare provider if you have questions or concerns.

Dermatology Clinic:
206.598.5065

Clinic hours: Weekdays, 8 a.m. to 5 p.m.

When to Call

Call a Dermatology nurse at **206.598.5065** if you have:

- **Increasing pain** and **burning** 24 hours after your procedure
- **Crusting** that does not go away after 7 days
- Any other questions or concerns