

MAL (Metvix) Photodynamic Therapy (PDT)

Indications:

- Actinic Keratosis
- Some non-melanoma skin cancers (NMSC) including non-aggressive BCC and SCC in situ

Contraindications

Patients should inform the doctor if they have any of the following:

- A nut allergy (specifically peanuts and/or almonds)
- Porphyria
- Systemic lupus erythematosus
- Herpes Type 1 (cold sores) – **Please inform your doctor as there is a preventative treatment available**
- Shingles

Mechanism of action:

- Following application, methyl aminolevulinate (MAL) is absorbed into the skin with preference for diseased cells. In the cells, levels of protoporphyrin IX (PpIX) increase and reach a peak after 3 hours. PpIX is light sensitive and gets activated by certain wavelengths of light to form reactive oxygen species (ROS) which leads to destruction of the targeted tumor cells. In the case of MAL, red light (630 nm) is used.

What are the side effects of this treatment?

As everyone responds differently to treatment, patients may experience some side effects. Most side effects will go away within 5 to 8 days. Some of the more common side effects of PDT treatment are:

- Peeling or flaking of the skin (this may last up to 4 weeks).
- Redness and swelling (this may last up to 4 weeks).
- Dark spots (temporary).
- Stinging or burning (typically about 24 hours, although this may last longer).
- If the area treated is in the 'T' zone (around the forehead, nose and eyes), you may experience some swelling in these areas, or on your eyelids on the treated side. This is not very common, but it can occur. Sleeping propped up with extra pillows can help to reduce this. This irritation is caused by a normal soft tissue response to the chemical reaction that has taken place during your treatment.
- Millia or small pimples (rare).
- Blisters
- Temporary and rarely permanent pigment change (darkening or lightening) of the skin.

Preparation for your appointment

All patients will be given a prescription for Metvix cream to bring into the office for their PDT appointment.

Be sure to keep the Metvix cream in the fridge until the appointment, and it is also a good idea to bring it to the office wrapped in an ice pack.

Patients may also wish to bring a second shirt or a jacket in case they get wet during the PDT treatment (the treated area is cooled by spraying cold water directly on the skin which oftentimes results in a healthy dose of soaking).

Skin Preparation and Metvix Application

The Metvix cream will be applied in the office by the doctor.

The area to be treated will be prepped and cleaned by the doctor before any excess scale or crust is removed with a dermal curette. This process may cause slight discomfort for patients as the skin often becomes quite raw.

The Metvix cream will then be liberally applied to the area and a dressing will be used to cover the treated areas. The dressing, especially when on the face, is quite noticeable and patients may wish to plan their day accordingly.

Between your appointment and the PDT treatment

The Metvix cream needs to stay on the skin for three hours from the time of application.

Patients are advised to stay out of the sun as much as possible – the sun reacts to the cream in the same manner that the PDT light does and may cause a burning sensation.

PDT Treatment

After the three hours patients will return to the office for the PDT light treatment.

- The dressing will be removed and this may cause some discomfort due to the dressing pulling on the skin.
- The Metvix cream will then be wiped off with a saline solution and gauze.
- The doctor will speak to the patient before the light treatment begins and ensure that they are aware of the effects of the light.
- Protective goggles will be given to the patient and the light will be positioned over the area to be treated.
 - PDT uses a red light at 630nm and will be quite bright even with the goggles on.
- The PDT illumination lasts for seven minutes thirty seconds per treatment area (roughly up to half of the face).
- There may be two illuminations if the area to be treated is quite large.
- Stinging and/or burning in the treated area is normal and will vary in intensity between patients. Most patients rate the pain at 6/10, but it can, rarely, be up to 10/10 or severe pain.
 - Treatment can be paused at any time and patients are encouraged to let the MOA/Nurse know if they are experiencing any pain.
- The MOA/Nurse will always be in the room and will be using a cool spray on the treated area to provide some relief.
- After the treatment has finished the patient will be covered in cool gauze.
- The doctor will return after the treatment to check on the patient and give them instructions on aftercare.
- Some lesions are treated twice over two weeks.
 - The second appointment often causes a little more discomfort as the area is still tender from the first illumination.

References:

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