Photodynamic Therapy Procedure

PURPOSE:
Photodynamic therapy with Porfimer (Photofrin) is indicated for:

- Reduction of obstruction and palliation of symptoms in patients with completely or partially obstructing endobronchial non small cell lung cancer (NSCLC).
- Treatment of microinvasive endobronchial NSCLC in patients for whom surgery and radiotherapy are not indicated.

DEFINITION:
Photodynamic therapy with Porfimer Na (Photofrin) is a two-stage process requiring administration of both drug and light. The first stage of PDT is the intravenous injection of Porfimer Na (Photofrin) at 2 mg/kg. Illumination with laser light 40-50 hours following injection with Porfimer Na (Photofrin) constitutes the second stage of therapy. A second laser light application may be given 96-120 hours after injection, preceded by gentle debridement of residual tumor.

PROCEDURE:
Patients will be educated on photosensitivity prior to the injection by a trained nurse. Porfimer Na (Photofrin) will be reconstituted in the pharmacy by a pharmacist and delivered to department of injection. The injection of Porfimer Na (Photofrin) will be administered by a nurse who has received education on the product. The laser light dosimetry and application will be applied by a physician who has been trained on performing the procedure.

SAFETY:
Follow all precautions and contraindications stated in the Porfimer Na (Photofrin) Monograph and Diomed Laser user guide.
Porfimer Photodynamic Therapy Procedure

**Scheduling:**

I. After the patient has been identified as a candidate for photodynamic therapy the treating physician will need to ensure that patient has been educated on photosensitivity and the procedure. Photosensitivity education will include below items:
   - Review patient education brochure
   - Education on correct clothing to be gathered prior to injection
     - Dark glasses
     - Dark gloves
     - Wide brimmed hat
     - Dark long sleeved shirt and pants
     - Socks

II. Physician will also need to contact the endoscopy unit to initiate PDT. Physician will provide below information for treatment:
   - Weight of patient
   - Size of fiber to order

III. Endoscopy Unit to confirm:
   - Availability of the Diomed laser during the planned treatment day.
   - Confirm that the laser is operational by completing a test calibration.

IV. Patient will need to be contacted regarding:
   - Date, time and location of injection
   - Date, time and location of procedures

**Injection Day:**

1. Patient is confirmed to have proper clothing for photosensitivity
2. Weight is reconfirmed
3. Pharmacy is contacted to prepare Porfimer Na (Photofrin). Porfimer Na (Photofrin) is dosed at 2mg per kg of total body weight.
4. Start 20 gauge IV in large vein
5. Administer Porfimer Na (Photofrin) over 3-5 minutes
6. Follow-up IV
7. Patient is reviewed on patient education brochure
8. Patient is observed for 30 minutes for adverse effects
9. Patient is discharged

**1st Light Application:**

1. Physician is to confirm fiber size
2. Staff will calibrate laser with fiber for treatment according to Diomed Laser User Guide
3. Physician will confirm light dosimetry and operate laser
4. Light is applied during normal endoscopy or bronchoscopy
5. Patient is re-educated on photosensitivity and clothing is checked
6. Patient is discharged or admitted per physician discretion.

**Follow-up procedure with or without light application:**

1. Patient is discharged or admitted as per 1st light application.
2. Patient may be re-scoped with possible 2nd light application and debridement per physician discretion
3. Patient is discharged if patient has been admitted

*Origination date: 4/2019*

*Pulmonary Subcommittee Approval: 4/2019*

*P&T Committee Approval: 4/2019*
Porfimer Photodynamic Therapy Patient Consent

I ___________________________consent to the administration of Porfimer Na (Photofrin) and laser treatment and have been informed of the photosensitivity precautions I need to follow.

I understand that I must follow the recommendations of my physician regarding photosensitivity for 4 to 6 weeks including: exposure to direct natural light, bright indoor light and sunlight even on cloudy, hazy, or foggy days. __________ Initials

I have viewed the patient education video and patient education brochure provided to me. I agree to wear light protective gear as designated by the literature provided to me for the course of PDT therapy as directed by my physician and/or his designee. __________ Initials

I understand the recommended list below and have this light protective gear available to wear immediately following the injection of Porfimer Na (Photofrin). __________ Initials

• wide brimmed hat
• scarf to cover face and neck
• dark woven long sleeve shirt pants
• dark gloves
• socks
• sunglasses

I understand that sunscreen will not protect against photosensitivity and that I should avoid list below for 4-6 weeks. __________ Initials

• dental lights
• eye examinations
• operating room lights
• helmet hair dryers
• heating pads

I understand and agree to participate in light sensitivity testing as described in the provided literature (light sensitivity test date: __________) and to report to my physician and/or his designee 24 hours later. __________ Initials

I have actively participated in seeking answers to any question I might have regarding my PDT therapy and will continue to seek answers to any and all questions which may arise during the course of my PDT therapy. The contact name and number provided to me are:

Contact Name

Contact Number

Printed Patient Name

Patient Signature Date

Nurse Educator Signature Date

Physician Signature Date
Photodynamic Therapy for Early or Superficial Endobronchial Tumors Algorithm

Thoracic Surgery

Resectable

Yes

No

Local control

Early or Superficial Malignant Endobronchial Tumors

PDT

Bronchoscopy & Biopsy 8-10 weeks

Complete response (>50% reduction with persistent tumor)

No Response (<50% tumor reduction, stable or progressive disease)

External beam radiation

Chemotherapy ± External beam radiation

Curative Intent

PDT

Surveillance bronchoscopy with biopsies at 1, 2, 3 months then every 3 months for 1 year*

Yes**

Recurrence

Bronchoscopy every 6 months for 5 years ± CT Chest*


** Second course of PDT may be given a minimum of 30 days after initial therapy. Up to 2 additional courses separated by a minimum of 30 days can be given.
Photodynamic Therapy for Complete or Partial Malignant Endobronchial Obstruction Algorithm

*Second course of PDT may be given a minimum of 30 days after initial therapy. Up to 2 additional courses separated by a minimum of 30 days can be given.*