

Evidence Based Guideline

Photodynamic Therapy for Treatment of Specific Cancers

File Name: photodynamic_therapy_for_treatment_of_specific_cancers
Guideline Number: EBG.MED1330
Origination: 5/1992
Last CAP Review: 8/2009
Next CAP Review: 8/2011
Last Review: 8/2009

Description of Procedure or Service

As a treatment of cancer, photodynamic therapy (PDT) consists of the use of a photosensitizing agent and subsequent exposure of tumor cells to a light source of a specific wavelength to induce cellular damage. Several different photosensitizing agents have been used: porfimer sodium (Photofrin®), administered intravenously 48 hours before light exposure, and 5-aminolevulinic acid (5-ALA), administered orally 4 to 6 hours before the procedure. ALA is metabolized to protoporphyrin IX, which is preferentially taken up by the mucosa. Clearance of porfimer occurs in a variety of normal tissues over 40–72 hours, but tumors retain porfimer for a longer period. All patients who receive porfimer become photosensitive and must avoid exposure of skin and eyes to direct sunlight or bright indoor light for 30 days. After administration of the photosensitizing agent, the target tissue is exposed to light using a variety of laser techniques. For example, a laser fiber may be placed through the channel of the endoscope, or a specialized modified diffuser may be placed via fluoroscopic guidance. Treatment of Barrett's esophagus may be enhanced by the use of balloons containing a cylindrical diffusing fiber. The balloon is designed to compress the mucosal folds of the esophagus, thus increasing the likelihood that the entire Barrett's mucosa is exposed to light. Tumor selectivity in treatment occurs through a combination of selective retention of photosensitizing agent and selective delivery of light.

The indications of the U.S. Food and Drug Administration (FDA) label for porfimer sodium are as follows:

- Palliation of patients with completely obstructing esophageal cancer, or of patients with partially obstructing esophageal cancer who, in the opinion of their physician, cannot be satisfactorily treated with Nd:YAG laser therapy
- 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
- Treatment of high-grade dysplasia in Barrett's esophagus

Photodynamic therapy has also been investigated for use in a wide variety of tumors, including other gastrointestinal tumors, cholangiocarcinoma, prostate, bladder, lung, breast, brain (where it is administered intraoperatively), skin, and head and neck cancers. Barrett's esophagus has also been treated with photodynamic therapy.

Photodynamic therapy is also called phototherapy, photoradiation therapy, photosensitizing therapy, or photochemotherapy.

*****Note: The Evidence Based Guideline on photodynamic therapy for treatment of specific cancers is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Policy: Photodynamic Therapy for Treatment of Specific Cancers

Evidence Based Guideline for Photodynamic Therapy for Treatment of Specific Cancers

Photodynamic therapy for the treatment of cancer may be recommended for the following indications:

- [palliative](#) treatment of obstructing esophageal cancer;
- [palliative](#) treatment of obstructing endobronchial lesions;
- treatment of early stage non small cell lung cancer in patients who are ineligible for surgery and radiation therapy.
- treatment of high-grade [dysplasia](#) in Barrett's esophagus

***Note: Palliative radiation is preferable to Photodynamic Therapy if feasible for obstructing esophageal and endobronchial lesions.

Medical Evidence regarding Photodynamic Therapy for Treatment of Specific Cancers indicates it is not recommended in the following situations:

When it does not meet the indications listed above.

Photodynamic Therapy is not recommended for treatment of other types of malignancies including but not limited to prostate, bladder, lung, breast, brain, skin, head, neck cancers and Barrett's esophagus without associated high-grade [dysplasia](#) and other GI tumors.

Benefits Application

Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 96570, 96571, J9600

Medical Term Definitions

Dysplasia

abnormality of development, in pathology, an alteration in size, shape and organization of adult cells.

Palliative

affording relief, but not cure.

Policy: Photodynamic Therapy for Treatment of Specific Cancers

Scientific Background and Reference Sources

For policy entitled Photodynamic Therapy

BCBSA Medical Policy Manual - 12/95
Medical Policy Reference Manual 11/1/98
Medical Policy Advisory Group Review - 3/99
Specialty Matched Consultant Advisory Panel 11/1999
Medical Policy Advisory Group 12/2/1999

Policies combined for new policy entitled: Photodynamic Therapy

BCBSA Medical Policy Reference Manual, 8/18/2000; 8.01.06
BCBSA TEC Evaluation, 12/2000; Volume 15, No. 18
BCBSA Medical Policy Reference Manual, 12/15/2000; 9.03.08
Specialty Matched Consultant Advisory Panel 11/2001
BCBSA Medical Policy Reference Manual, 11/20/2001, 8.01.36 and 9.03.08

Policies separated, name changed to: Photodynamic Therapy for Treatment of Specific Cancers

BCBSA Medical Policy Reference Manual, 10/8/2002; 8.01.06
Specialty Matched Consultant Advisory Panel - 10/2003
BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.06, 3/15/2005.
Specialty Matched Consultant Advisory Panel - 9-2005
BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.06, 3/7/2006.
Specialty Matched Consultant Advisory Panel -8/2007
BCBSA Medical Policy Reference Manual [Electronic Version]. 8.01.06, 11/13/2008.
Specialty Matched Consultant Advisory Panel -8/2009

Policy Implementation/Update Information

For policy entitled: Photodynamic Therapy

3/85 Evaluated: Experimental/Investigative
8/88 Reviewed: Investigational
5/92 Revised: Clarified that this policy does not address extracorporeal photopheresis
7/96 Reaffirmed: National Association reviewed 12/95. No changes.
3/99 Revised. Changed investigational status. Added FDA- approved labeled indications.
6/99 Reformatted, Medical Term Definitions added.
12/99 Reaffirmed, Medical Policy Advisory Group

Policies combined for new policy entitled: Photodynamic Therapy

8/00 New combined policy issued. System coding changes.

Policy: Photodynamic Therapy for Treatment of Specific Cancers

- 3/01 Revised. New section IV added to include criteria for photodynamic therapy for treatment of age-related macular degeneration. Added statement under when extracorporeal photopheresis is not covered.
- 5/01 Revised. Added eligible criteria for palliative treatment of obstructing endobronchial lesions to Section III.
- 10/01 Coding format changes.
- 11/01 Specialty Matched Consultant Advisory Panel. No changes.
- 3/02 Policy statements revised in both covered and non-covered sections of the, "Photodynamic Therapy for Treatment of Age-related Macular Degeneration" and "Extracorporeal Photopheresis".

Policies separated, name changed to: Photodynamic Therapy for Treatment of Specific Cancers

- 11/03 Photodynamic Therapy policies separated. Name changed from Photodynamic Therapy to Photodynamic Therapy for Treatment of Specific Cancers. Removed sections on PUVA (Psoralens with Ultraviolet A) Therapy and Photodynamic Therapy for Treatment of Age-Related Macular Degeneration (AMD). Archived policy entitled Extracorporeal Photopheresis. Specialty Matched Consultant Advisory Panel review. Revised "when it is not covered" section to add, "Photodynamic Therapy is considered investigational for other types of malignancies and Barrett's esophagus with or without associated dysplasia". Code J9600 added to Billing/Coding section. Format changes.
- 10/8/05 Specialty Matched Consultant Advisory Panel review 9/19/2005. Added additional indication for the "treatment of high-grade dysplasia in Barrett's Esophagus" in the "When covered" section. Specific investigational indications added to the "When not covered" section. Key words added. Added "Debridement", "Dysplasia", "Endoscopic", and "Palliative" to "Medical Term Definitions" References added.
- 9/18/06 Medical Policy changed to Evidence Based Guideline.
- 9/24/07 Specialty Matched Consultant Advisory Panel review 8/23/2007. No changes to guideline. References added. (btw)
- 10/12/09 Specialty Matched Consultant Advisory Panel review 8/28/09. "Description" section revised. Added information to the "Evidence Based Guideline" section to indicate; "****Note: Palliative radiation is preferable to Photodynamic Therapy if feasible for obstructing esophageal and endobronchial lesions." Removed "Debridement" and "Endoscopic" from "Definition" section. References added. (btw)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.