



Louisiana

sipuleucel-T (Provenge®)

Policy # 00264

Original Effective Date: 07/21/2010

Current Effective Date: 10/17/2018

Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc. (collectively referred to as the "Company"), unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

When Services May Be Eligible for Coverage

Coverage for eligible medical treatments or procedures, drugs, devices or biological products may be provided only if:

- *Benefits are available in the member's contract/certificate, and*
- *Medical necessity criteria and guidelines are met.*

Based on review of available data, the Company may consider the use of sipuleucel-T (Provenge®)†‡ for the treatment of metastatic castrate resistant prostate cancer to be **eligible for coverage**.

Patient Selection Criteria

Coverage eligibility for the use of sipuleucel-T (Provenge) will be considered when ALL of the following criteria are met:

- Patient has documented metastatic prostate cancer in soft tissues and/or bone; AND
- Patient has documented hormone refractory prostate cancer with evidence of disease progression as indicated by serial measurement of serum prostate specific antigen and testosterone level measurement < 50 ng/dL; AND
- Patient is NOT on narcotics for cancer-related pain management; AND
- Patient is asymptomatic or minimally symptomatic; AND
- Patient does NOT have visceral (liver, lung, or brain) metastases

When Services Are Considered Investigational

Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.

Based on review of available data, the Company considers the use of sipuleucel-T (Provenge) when patient selection criteria have not been met to be **investigational**.*

Background/Overview

Provenge is a cellular immunotherapy consisting of autologous peripheral blood mononuclear cells (PBMC's), obtained by leukapheresis and cultured (activated) with a recombinant human protein (PAP-GM-CSF) consisting of prostatic acid phosphatase linked to granulocyte-macrophage colony-stimulating factor. Provenge is indicated for the treatment of asymptomatic or minimally symptomatic metastatic castrate resistant (hormone refractory) prostate cancer.

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Cellular immunotherapy makes use of live human cells to re-engage the patient's own immune system much like a vaccine works by introduction of antigen to invoke the antigen response mechanism. Provenge is a vaccine, but, unlike traditional vaccines, does not prevent the inception of the disease.

Provenge is personalized for each patient, produced by taking cells from a patient's tumor, and incorporating them into a vaccine consisting of the patient's own blood cells (dendritic cells) and the Dendreon PAP-GM-CSF fusion protein. The cells are then incubated with a protein often found on prostate tumors, combined with an immune system booster. The treated cells are then infused back into the patient three times over the course of a month. Provenge is administered intravenously as a 3 dose regimen at approximately 2-week intervals.

The active components of Provenge are autologous antigen presenting cells (APCs) and the protein called PAP-GM-CSF. Antigen presenting cells are activated during a defined culture period with a recombinant human protein, PAP-GM-CSF, consisting of prostatic acid phosphatase (PAP), an antigen expressed in prostate cancer tissue, linked to granulocyte-macrophage colony-stimulating factor (GM-CSF), an immune cell activator.

The cellular composition of Provenge will vary, depending on the cells obtained from the individual patient during leukapheresis. In addition to the APCs, the product also contains T cells, B cells, natural killer (NK) cells, and other cells.

Metastatic Prostate Cancer

Metastatic androgen-independent (hormone refractory) prostate cancer is usually incurable. Currently available therapies are intended for palliation and/or prolonging survival. These therapeutic options include additional hormonal manipulations, bisphosphonates to reduce effects of bony metastases, chemotherapy, palliative radiation and pain control.

FDA or Other Governmental Regulatory Approval

U.S. Food and Drug Administration (FDA)

Provenge received FDA approval on April 29, 2010 for use in the treatment of prostate cancer patients with hormone-resistant cancer that has spread in the body, but is not causing significant symptoms. It is the first FDA approved drug in its class.

Centers for Medicare and Medicaid Services (CMS)

No national coverage determination concerning Provenge has been posted.

Rationale/Source

This medical policy was developed through consideration of peer-reviewed medical literature generally recognized by the relevant medical community, U.S. FDA approval status, nationally accepted standards of medical practice and accepted standards of medical practice in this community, Blue Cross and Blue Shield

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Association technology assessment program (TEC) and other non-affiliated technology evaluation centers, reference to federal regulations, other plan medical policies, and accredited national guidelines.

The approval of this drug by the FDA was based on results from a randomized, double-blind, placebo-controlled, multicenter trial (Study 9902B). Overall survival (OS) was the primary efficacy endpoint of this trial. Eligible patients had metastatic disease in soft tissue and/or bone with evidence of disease progression determined at either of these sites or by serial measurement of prostate specific antigen (PSA). All patients had prior adequate hormonal therapies with castrate testosterone levels attained. Patients with visceral (liver, lung, or brain) metastases or who reported moderate to severe prostate cancer-related pain and/or use of narcotics for cancer-related pain were excluded. Patients were randomized to receive either the sipuleucel-T treatment or a control (peripheral blood mononuclear cells which were not activated). Patients in both groups underwent 3 leukapheresis procedures (approximately Weeks 0, 2, and 4), followed 3 days later with an infusion of either sipuleucel-T or the non-activated control. Patients who had disease progression during the trial were treated at the physician's discretion. Five hundred twelve patients were randomized (2:1) to either sipuleucel-T (n = 341) or control (n = 171). Eighty-two percent had received prior combined androgen blockade, 54% local radiotherapy, 35% radical prostatectomies, 18% prior chemotherapy including docetaxel. The median age was 71 years (range 40-89); 90% were Caucasian.

Patients treated with sipuleucel-T had an improvement in median OS (25.8 months versus 21.7 months, p = 0.032, HR 0.775, 95% CI 0.61, 0.98). There was no difference in time-to-progression. Fifty-seven percent of patients in the sipuleucel-T arm and 50.3% in the control arm received docetaxel after disease progression. A second trial (Study 9901) provided supportive evidence to the results of Study 9902B. Study 9901 was a smaller, randomized, double-blind, placebo-controlled, multicenter trial of 127 patients with metastatic, castrate resistant prostate cancer. Patients were randomized (2:1) to receive either sipuleucel-T (n = 82) or control (n = 45). The primary endpoint was time- to- disease progression. All patients were followed for OS, although the method of survival analysis was not pre-specified. Analysis of the primary endpoint did not reach statistical significance. The median OS of patients treated with sipuleucel-T was 25.9 months compared to 21.45 months for patients in the control group.

The safety evaluation of Provenge is based on 601 prostate cancer patients in the Provenge group who underwent at least 1 leukapheresis procedure in 4 randomized, controlled clinical trials. The control was non-activated autologous peripheral blood mononuclear cells.

Almost all (98.3%) patients in the Provenge group and 96.0% in the control group reported an adverse event. The most common adverse events, reported in patients in the Provenge group at a rate \geq 15%, were chills, fatigue, fever, back pain, nausea, joint ache, and headache. In 67.4% of patients in the Provenge group, these adverse events were mild or moderate in severity. Severe (Grade 3) and life-threatening (Grade 4) adverse events were reported in 23.6% and 4.0% of patients in the Provenge group compared with 25.1% and 3.3% of patients in the control group. Fatal (Grade 5) adverse events were reported in 3.3%

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of patients in the Provenge group compared with 3.6% of patients in the control group. The most common ($\geq 2\%$) Grade 3-5 adverse events reported in the Provenge group were back pain and chills.

Serious adverse events were reported in 24.0% of patients in the Provenge group and 25.1% of patients in the control group. Serious adverse events in the Provenge group included acute infusion reactions, cerebrovascular events, and single case reports of eosinophilia, rhabdomyolysis, myasthenia gravis, myositis, and tumor flare.

Provenge was discontinued in 1.5% of patients in Study 1 due to adverse events. Some patients who required central venous catheters for treatment with Provenge developed infections, including sepsis. A small number of these patients discontinued treatment as a result. Monitoring for infectious sequelae in patients with central venous catheters is recommended.

Each dose of Provenge requires a standard leukapheresis procedure approximately 3 days prior to the infusion. Adverse events that were reported ≤ 1 day following a leukapheresis procedure in $\geq 5\%$ of patients in controlled clinical trials included citrate toxicity (14.2%), oral paresthesia (12.6%), paresthesia (11.4%), and fatigue (8.3%).

In controlled clinical trials, cerebrovascular events, including hemorrhagic and ischemic strokes, were observed in 3.5% of patients in the Provenge group compared with 2.6% of patients in the control group. Another option for treatment of patients with advanced prostate cancer is Taxotere^{®†} (docetaxel) in combination with prednisone. The most common severe side effects are low white blood-cell count, anemia, fatigue, diarrhea, and mouth and throat irritation. Other common side effects from Taxotere include nausea, vomiting, hair loss, rash, infusion-site reactions, odd sensations (such as numbness, tingling, or burning) or weakness in the hands and feet, nail changes, muscle and/or bone pain, or excessive tearing.

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Policy History

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07/03/2010	Medical Policy Committee review
07/21/2010	Medical Policy Implementation Committee approval. New policy.
08/04/2011	Medical Policy Committee review
08/17/2011	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
08/02/2012	Medical Policy Committee review
08/15/2012	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
08/01/2013	Medical Policy Committee review
08/21/2013	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
08/07/2014	Medical Policy Committee review
08/20/2014	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/08/2015	Medical Policy Committee review
10/21/2015	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/06/2016	Medical Policy Committee review
10/19/2016	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
01/01/2017	Coding update: Removing ICD-9 Diagnosis Codes
10/05/2017	Medical Policy Committee review
10/18/2017	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
10/04/2018	Medical Policy Committee review
10/17/2018	Medical Policy Implementation Committee approval. Coverage eligibility unchanged.
Next Scheduled Review Date:	10/2019

Coding

The five character codes included in the Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)†, copyright 2017 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

The responsibility for the content of Blue Cross Blue Shield of Louisiana Medical Policy Coverage Guidelines is with Blue Cross and Blue Shield of Louisiana and no endorsement by the AMA is intended or should be implied. The AMA

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CPT is a registered trademark of the American Medical Association.

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	No codes
HCPCS	Q2043
ICD-10 Diagnosis	C61

*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

- A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. FDA and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
- B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
 - 1. Consultation with the Blue Cross and Blue Shield Association technology assessment program (TEC) or other nonaffiliated technology evaluation center(s);
 - 2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
 - 3. Reference to federal regulations.

**Medically Necessary (or “Medical Necessity”) - Health care services, treatment, procedures, equipment, drugs, devices, items or supplies that a Provider, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are:

- A. In accordance with nationally accepted standards of medical practice;
- B. Clinically appropriate, in terms of type, frequency, extent, level of care, site and duration, and considered effective for the patient’s illness, injury or disease; and
- C. Not primarily for the personal comfort or convenience of the patient, physician or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient’s illness, injury or disease.

For these purposes, “nationally accepted standards of medical practice” means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, Physician Specialty Society recommendations and the views of Physicians practicing in relevant clinical areas and any other relevant factors.

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