MEDICAL COVERAGE POLICY	
SERVICE: Cancer Treatment Vaccines	
Policy Number:	**050**
Effective Date:	**06/01/2023**
Last Review:	**04/27/2023**
Next Review Date:	**04/27/2024**

Important note:
Unless otherwise indicated, this policy will apply to all lines of business.
Even though this policy may indicate that a particular service or supply may be considered medically necessary and thus covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. You need to consult the Evidence of Coverage (EOC) or Summary Plan Description (SPD) to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and your plan of benefits, the provisions of your benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare-linked plan members, this policy will apply unless there are Medicare policies that provide differing coverage rules, in which case Medicare coverage rules supersede guidelines in this policy. Medicare-linked plan policies will only apply to benefits paid for under Medicare rules, and not to any other health benefit plan benefits. CMS's Coverage Issues Manual can be found on the CMS website. Similarly, for Medicaid-linked plans, the Texas Medicaid Provider Procedures Manual (TMPPM) supersedes coverage guidelines in this policy where applicable.

SERVICE: Cancer Treatment Vaccines

PRIOR AUTHORIZATION: Not applicable.

POLICY:

For Medicaid plans, please confirm coverage as outlined in the Texas Medicaid TMPPM. Texas Mandate HB1584 is applicable for Medicaid plans.

BSWHP considers vaccine therapy in the treatment of the following cancers experimental and investigational because the clinical evidence is not sufficient to permit conclusions on the health outcome effects of vaccine therapy:

- Breast cancer
- CNS cancers (e.g., glioblastoma and neuroblastoma)
- Colorectal cancer
- Gallbladder cancer
- Gastric cancer
- Glioma
- Head and neck cancer
- Hepatic cancer
- Lung cancer
- Oral squamous cell carcinoma
- Ovarian cancer
- Pancreatic cancer.

BSWHP considers the use of melanoma vaccines, e.g., Theraccine, Oncophage, experimental, investigational and unproven and not medically necessary because of insufficient evidence regarding its safety and effectiveness.

BSWHP considers helper multi-peptide (6MHP) vaccine for metastatic melanoma experimental, investigational and unproven and not medically necessary because of insufficient evidence regarding its safety and effectiveness.

OVERVIEW: Tumor vaccines are a type of immunotherapy that attempts to stimulate the patient's own immune system to respond to tumor antigens. Tumor vaccines have been principally investigated as a treatment of melanoma, due to the recognition that melanoma can induce an immune response, and the overall ineffectiveness of chemotherapy. Melanoma vaccines can be generally categorized or prepared in the following ways:

- Purified antigen vaccines, consisting of single, purified proteins or gangliosides, or short, immunogenic peptide fragments of proteins (e.g., GMK (ganglioside) vaccine, Progenics);
- Cell lysate vaccines, in which allogeneic tumor cell lines are lysed by mechanical disruption or viral infection;
- Whole cell vaccines, consisting of whole killed allogeneic cells from tumor cell lines. Autologous whole-cell vaccines, in which tumor cells are harvested from the patients, irradiated, and potentially modified with antigenic molecules to increase immunogenicity (e.g., M-Vax®, AVAX Technologies).
- Heat-shock protein-peptide complexes purified from autologous tumor cells (e.g., Oncophage®, Antigenics, Inc.).
- Shed antigen vaccines, consisting of a mixture of cell surface antigens shed into tissue culture supernatant by melanoma cell lines.
- Dendritic cell vaccines, consisting of autologous, dendritic cells pulsed with tumor-derived peptides, tumor lysates, antigen encoding Ribonucleic acid (RNA) or Deoxyribonucleic acid (DNA).
- Genetically modified tumor vaccines, consisting of autologous or allogeneic tumor cell lines transduced with retroviral vectors containing cytokine genes, tumor antigen genes, co-stimulatory molecules, or human leukocyte antigen (HLA) proteins.
- Anti-idiotype vaccine, consisting of monoclonal antibodies with specificity for tumor antigen-reactive antibodies.

NOTE: At the present time, no melanoma vaccine has received approval from the U.S. Food and Drug Administration (FDA).

CODES:

Important note:
CODES: Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.

CPT Codes:	
CPT Not Covered:	
HCPCS Covered:	
HCPCS Not Covered:	
ICD-10 Codes:	C00.0-C14.8 - Malignant neoplasm of lip, oral cavity and pharynx C16.0-C16.9 - Malignant neoplasm of stomach C18.0-C21.8 - Malignant neoplasm of colon, rectum, rectosigmoid junction, and anus C22.0-C22.9 - Malignant neoplasm of liver and intrahepatic bile ducts C23 - Malignant neoplasm of gallbladder

	C25.0-C25.9 - Malignant neoplasm of pancreas C34.00-C34.92 - Malignant neoplasm of bronchus and lung C43.0-C44.99 - Malignant melanoma of skin C50.011-C50.929 - Malignant neoplasm of breast C51.0-C51.9 - Malignant neoplasm of vulva C52 - Malignant neoplasm of vagina C53.0-C53.9 - Malignant neoplasm of cervix uteri C56.1-C56.9 - Malignant neoplasm of ovary C60.0-C60.9 - Malignant neoplasm of penis C64.1-C64.9 - Malignant neoplasm of kidney, except renal pelvis C70.0-C70.9, C72.0-C72.9 - Malignant neoplasm of meninges, spinal cord, cranial nerves and other parts of central nervous system C71.0-C71.9 - Malignant neoplasm of brain [glioma] C76.0 - Malignant neoplasm of head, face, and neck C79.81 - Secondary malignant neoplasm of breast D03.52 - Melanoma in situ of breast (skin) (soft tissue) D03.59 - Melanoma in situ of other part of trunk Z23 - Encounter for immunization

CMS: There are no NCDs or LCDs related to this coverage.

POLICY HISTORY:

Status	Date	Action
New	12/28/2010	New policy
Reviewed	12/6/2011	Reviewed.
Reviewed	10/25/2012	No changes
Reviewed	10/3/2013	No changes.
Reviewed	07/24/2014	Updated, changed name and added ovarian cancer vaccine
Reviewed	08/11/2015	No changes
Reviewed	09/08/2016	No changes
Updated	08/29/2017	Change status for Sipuleucel-T to “medically necessary”
Updated	06/26/2018	Update coverage for Imlygic® to medically necessary
Updated	12/04/2018	Removed Imlygic® and Sipuleucel-T tp separate policies
Reviewed	01/23/2020	No changes
Reviewed	01/28/2021	Additional E&I vaccines added
Updated	04/22/2021	Medicaid instructions added.
Reviewed	04/21/2022	No changes
Reviewed	04/27/2023	NO changes

REFERENCES:

The following scientific references were utilized in the formulation of this medical policy. SWHP/FirstCare will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to SWHP/FirstCare so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.

1. Vaccines for the Treatment of Malignant Melanoma. Chicago, Illinois: Blue Cross Blue Shield Association – Technology Evaluation Center Assessment Program (2001 May) 16(4):1-45.

2. Kirkwood, J.M., Ibrahim, J., et al. High-dose interferon alfa-2b does not diminish antibody response to GM2 vaccination in patients with resected melanoma: results of the multicenter Eastern Cooperative Oncology Group phase II trial E2696. Journal of Clinical Oncology (2001) 19(5):1430-6.
3. Suckow, M.A., Wolter, W.R., et al. Prevention of de novo prostate cancer by immunization with tumor-derived vaccines. Cancer Immunology, Immunotherapy (2005 January) 54(6): 571-6.
4. Sondak,V.K., Sabel, M.S., et al. Allogeneic and autologous melanoma vaccines: where have we been and where are we going? Clinical Cancer Research (2006) 12(7 Supplement):2337s-41s.
5. Dolan, B.P., Gibbs, K.D., et al. Tumor-specific CD4+ T cells are activated by 51cross-dressed51 dendritic cells presenting peptide-MHC class II complexes acquired from cell-based cancer vaccines. Journal of Immunology (2006 February 1) 176(3):1447-55.
   Garza, E., and C.Y. Okada. Adjuvant IL-15 does not enhance the efficacy of tumor cell lysate-pulsed dendritic cell vaccines for active immunotherapy of T-cell lymphoma. Cancer Immunology, Immunotherapy (2006 April) 55(4):420-32.
6. Schadendorf, D., Ugurel, S., et al. Dacarbazine (DTIC) versus vaccination with autologous peptide-pulsed dendritic cells (DC) in first-line treatment of patients with metastatic melanoma: a randomized phase III trial of the DC study group of the DeCOG. Annals of Oncology (2006) 17(4):563-70.
7. Hahn, T., Alvares, I., et al. Short-term dietary administration of celecoxib enhances the efficacy of tumor lysate-pulsed dendritic cell vaccines in treating murine breast cancer. International Journal of Cancer (2006 May 1) 118(9):2220-31.
8. Morton, D.L., Mozzillo, N., et al. An international, randomized, phase III trial of bacillus Calmette-Guerin (BCG) plus allogeneic melanoma vaccine (MCV) or placebo after complete resection of melanoma metastatic to regional or distant sites. Journal of Clinical Oncology (2007) 25(18S):8508.
9. Chapman, P.B. Melanoma vaccines. Seminars in Oncology (2007) 34(6):516-23.
10. Mitchell, M.S., Abrams, J., et al. Randomized trial of an allogeneic melanoma lysate vaccine with low-dose interferon Alfa-2b compared with high-dose interferon Alfa-2b for Resected stage III cutaneous melanoma. Journal of Clinical Oncology (2007) 25(15):2078-85.
11. Eggermont, A.M., Suciu, S., et al. EORTC 18961: Post-operative adjuvant ganglioside GM2-KLH21 vaccination treatment vs observation in stage II (T3-T4N0M0) melanoma: 2nd interim analysis led to an early disclosure of the results. Journal of Clinical Oncology (2008) 26(15 supplement): abstract 9004.
12. Testori, A., Richards, J., et al. Phase III comparison of vitespen, an autologous tumor-derived heat shock protein gp96 peptide complex vaccine, with physician's choice of treatment for stage IV melanoma: the C-100-21 Study Group. Journal of Clinical Oncology (2008) 26(6):955-62.
13. Trepiakas R, Berntsen A, Hadrup SR, et al. Vaccination with autologous dendritic cells pulsed with multiple tumor antigens for treatment of patients with malignant melanoma: Results from a phase I/II trial. Cytotherapy. 2010;12(6):721-734.
14. Dangoor A, Lorigan P, Keilholz U, et al. Clinical and immunological responses in metastatic melanoma patients vaccinated with a high-dose poly-epitope vaccine. Cancer Immunol Immunother. 2010;59(6):863-873.
15. Schwartzentruber DJ, Lawson DH, et al. gp100 peptide vaccine and interleukin-2 in patients with advanced melanoma. N Engl J Med. 2011;364(22):2119-2127.
16. Kaufman HL. Vaccines for melanoma and renal cell carcinoma. Semin Oncol. 2012;39(3):263-275.
17. Sabbatini P; Odunsi K. Immunologic approaches to ovarian cancer treatment. J Clin Oncol, 25(20):2884-93 2007.
18. Tsuda N et al. Vaccination with predesignated or evidence-based peptides for patients with recurrent gynecologic cancers. J Immunother, 27(1): 60-72 2004.
19. Wang B; Kaumaya PT; Cohn DE. Immunization with synthetic VEGF peptides in ovarian cancer. Gynecol Oncol, 01-Dec-2010; 119(3): 564-70.
20. Whiteside TL, Demaria S, Rodriguez-Ruiz ME, et al. Emerging opportunities and challenges in cancer immunotherapy. Clin Cancer Res. 2016;22(8):1845-1855.

Note: Health Maintenance Organization (HMO) products are offered through Scott and White Health Plan dba Baylor Scott & White Health Plan, and Scott & White Care Plans dba Baylor Scott & White Care Plan. Insured PPO and EPO products are offered through Baylor Scott & White Insurance Company. Scott and White Health Plan dba Baylor Scott & White Health Plan serves as a third-party administrator for self-funded employer-sponsored plans. Baylor Scott & White Care Plan and Baylor Scott & White Insurance Company are wholly owned subsidiaries of Scott and White Health Plan. These companies are referred to collectively in this document as Baylor Scott & White Health Plans.

STAR Medicaid plans are offered through Scott and White Health Plan in the Central RightCare Managed Care Service Area (MRSA) and STAR and CHIP plans are offered through SHA LLC dba FirstCare Health Plans (FirstCare) in the Lubbock and West MRSAs. Individual HMO plans are offered through FirstCare in West Texas.