

Medical Coverage Policy

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Coverage Policy Number	0538

Flow Cytometry

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Genetic Medical Coverage Policies

INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide quidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s). Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see "Coding Information" below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy

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will be denied as not covered. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses the indications for flow cytometry. Flow cytometry is a laboratory test used to separate, classify and count cells. It is clinically useful in the diagnosis and/or evaluation of hematopoietic cancers, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), primary immunodeficiency disorders, molar pregnancies, paroxysmal hemoglobinuria, and monitoring after transplantation.

Coverage Policy

Flow cytometry is considered medically necessary for the evaluation of any of the following:

- Hematopoietic/hematologic cancers
- Immunodeficiency disorders, including human immunodeficiency virus (HIV) and acquired immunodeficiency virus syndrome (AIDS)
- Paroxysmal nocturnal hemoglobinuria
- Gestational trophoblastic disease
- Transplantation

Flow cytometry for any other indication is not covered or reimbursable.

Coding Information

Notes:

- 1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
- 2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®*	Description
Codes	
86355	B cells, total count
86356	Mononuclear cell antigen, quantitative (eg, flow cytometry), not otherwise specified, each antigen
86357	Natural killer (NK) cells, total count
86359	T cells; total count
86360	T cells; absolute CD4 and CD8 count, including ratio
86361	T cells; absolute CD4 count
86367	Stem cells (ie, CD34), total count

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CPT®*	Description
Codes	
88182	Flow cytometry, cell cycle or DNA analysis
88184	Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; first marker
88185	Flow cytometry, cell surface, cytoplasmic, or nuclear marker, technical component only; each additional marker (List separately in addition to code for first marker)
88187	Flow cytometry, interpretation; 2 to 8 markers
88188	Flow cytometry, interpretation; 9 to 15 markers
88189	Flow cytometry, interpretation; 16 or more markers
0581U	Transplantation medicine, antibody to non-human leukocyte antigens (non-HLA), blood specimen, flow cytometry, single-antigen bead technology, 39 targets, individual positive antibodies reported

ICD-10-CM Diagnosis Codes	Description		
A02.1	Salmonella sepsis		
A07.2	Cryptosporidiosis		
A07.3	Isosporiasis		
A15.0-A19.9	Tuberculosis		
A31.0	Pulmonary mycobacterial infection		
A31.2	Disseminated mycobacterium avium-intracellulare complex (DMAC)		
A31.8	Other mycobacterial infections		
A81.2	Progressive multifocal leukoencephalopathy		
B00.0	Eczema herpeticum		
B00.1	Herpesviral vesicular dermatitis		
B00.2	Herpesviral gingivostomatitis and pharyngotonsillitis		
B00.89	Other herpesviral infection		
B20	Human immunodeficiency virus [HIV] disease		
B25.0-B25.9	Cytomegaloviral disease		
B37.1	Pulmonary candidiasis		
B37.81	Candidal esophagitis		
B37.89	Other sites of candidiasis		
B38.9	Coccidioidomycosis, unspecified		
B39.2	Pulmonary histoplasmosis capsulati, unspecified		
B39.3	Disseminated histoplasmosis capsulati		
B39.4	Histoplasmosis capsulati, unspecified		
B45.0-B45.9	Cryptococcosis		
B58.2	Toxoplasma meningoencephalitis		
B59	Pneumocystosis		
B97.33	Human T-cell lymphotrophic virus, type I [HTLV-I] as the cause of diseases classified elsewhere		
B97.34	Human T-cell lymphotrophic virus, type II [HTLV-II] as the cause of diseases classified elsewhere		
B97.35	Human immunodeficiency virus, type 2 [HIV 2] as the cause of diseases classified elsewhere		
C46.0-C46.9	Kaposi's sarcoma		
C53.0-C53.9	Malignant neoplasm of cervix uteri		
C58	Malignant neoplasm of placenta		

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ICD-10-CM Diagnosis Codes	Description	
C81.00- C81.9A	Hodgkin lymphoma	
C82.00- C82.9A	Follicular lymphoma	
C83.00-C83.	Non-follicular lymphoma	
C84.00-C84.	Mature T/NK-cell lymphomas	
C85.10-C85.	Other specified and unspecified types of non-Hodgkin lymphoma	
C86.00- C86.61	Other specified types of T/NK-cell lymphoma	
C88.00- C88.91	Malignant immunoproliferative diseases and certain other B-cell lymphomas	
C90.00- C90.32	Multiple myeloma and malignant plasma cell neoplasms	
C91.00- C91.92	Lymphoid leukemia	
C92.00- C92.92	Myeloid leukemia	
C93.00- C93.92	Monocytic leukemia	
C94.00- C94.82	Other leukemias of specified cell type	
C95.00- C95.92	Leukemia of unspecified cell type	
C96.0-C96.9	Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue	
D39.2	Neoplasm of uncertain behavior of placenta	
D45	Polycythemia vera	
D46.0-D46.	Myelodysplastic syndromes	
D47.01	Cutaneous mastocytosis	
D47.02	Systemic mastocytosis	
D47.09	Other mast cell neoplasms of uncertain behavior	
D47.1	Chronic myeloproliferative disease	
D47.2	Monoclonal gammopathy	
D47.3	Essential (hemorrhagic) thrombocythemia	
D47.4	Osteomyelofibrosis	
D47.Z1	Post-transplant lymphoproliferative disorder (PTLD)	
D47.Z2	Castleman disease	
D47.Z9	Other specified neoplasms of uncertain behavior of lymphoid, hematopoietic and related tissue	
D50.0	Iron deficiency anemia secondary to blood loss (chronic)	
D50.8	Other iron deficiency anemias	
D50.9	Iron deficiency anemia, unspecified	
D51.0- D51.9	Vitamin B12 deficiency anemia	

ICD-10-CM Diagnosis Codes	Description		
D52.9	Folate deficiency anemia, unspecified		
D53.0	Protein deficiency anemia		
D53.1	Other megaloblastic anemias, not elsewhere classified		
D53.8	Other specified nutritional anemias		
D53.9	Nutritional anemia, unspecified		
D56.0	Alpha thalassemia		
D56.1	Beta thalassemia		
D56.3	Thalassemia minor		
D56.9	Thalassemia minor Thalassemia, unspecified		
D57.00-	Sickle-cell disorders		
D57.819			
D58.0	Hereditary spherocytosis		
D58.2	Other hemoglobinopathies		
D58.9	Hereditary hemolytic anemia, unspecified		
D59.0	Drug-induced autoimmune hemolytic anemia		
D59.10	Autoimmune hemolytic anemia, unspecified		
D59.11	Warm autoimmune hemolytic anemia		
D59.12	Cold autoimmune hemolytic anemia		
D59.13	Mixed type autoimmune hemolytic anemia		
D59.19	Other autoimmune hemolytic hemolytic anemia		
D59.2	Drug-induced nonautoimmune hemolytic anemia		
D59.4	Other nonautoimmune hemolytic anemias		
D59.5	Paroxysmal nocturnal hemoglobinuria [Marchiafava-Micheli]		
D59.6	Hemoglobinuria due to hemolysis from other external causes		
D59.8	Other acquired hemolytic anemias		
D59.9	Acquired hemolytic anemia, unspecified		
D60.0-	Acquired pure red cell aplasia [erythroblastopenia]		
D60.9	Acquired pure red cell apiasia [erythrobiastopenia]		
D61.01- D61.9	Other aplastic anemias and other bone marrow failure syndromes		
D62	Acute posthemorrhagic anemia		
D63.0-	Anemia in chronic diseases classified elsewhere		
D63.8	Atterna in emonie discuses dussifica elsewhere		
D64.0-	Other anemias		
D64.9			
D65	Disseminated intravascular coagulation [defibrination syndrome]		
D66	Hereditary factor VIII deficiency		
D67	Hereditary factor IX deficiency		
D68.00-	Von Willebrand disease		
D68.09			
D68.1	Hereditary factor XI deficiency		
D68.2	Hereditary deficiency of other clotting factors		
D68.311	Acquired hemophilia		
D68.51	Activated protein C resistance		
D68.52	Prothrombin gene mutation		
D68.59	Other primary thrombophilia		
D68.61	Antiphospholipid syndrome		
D68.62	Lupus anticoagulant syndrome		

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ICD-10-CM Diagnosis Codes	Description		
D68.69	Other thrombophilia		
D68.8	Other specified coagulation defects		
D68.9	Coagulation defect, unspecified		
D69.1	Qualitative platelet defects		
D69.2			
D69.3	nonthrombocytopenic purpura une thrombocytopenic purpura		
D69.41	Evans syndrome		
D69.42	Congenital and hereditary thrombocytopenia purpura		
D69.49			
D69.51	primary thrombocytopenia ansfusion purpura		
D69.59	Other secondary thrombocytopenia		
D69.6	Thrombocytopenia, unspecified		
D69.8	Other specified hemorrhagic conditions		
D69.8	Hemorrhagic condition, unspecified		
D70.0-	Neutropenia		
D70.0-	Neutropenia		
D70.9	Functional disorders of polymorphonuclear neutrophils		
D71.1-	Tunctional disorders of polymorphomaclear fleutrophilis		
D72.0-	Other disorders of white blood cells		
D72.0-	Other disorders of white blood cells		
D73.0-	Diseases of spleen		
D73.0-	Diseases of spiceri		
D75.0-	Other and unspecified diseases of blood and blood-forming organs		
D75.0-	Other and unspectified diseases of blood and blood-forming organs		
D76.1-	Other specified diseases with participation of lymphoreticular and		
D76.3	reticulohistiocytic tissue		
D80.0-	Immunodeficiency with predominantly antibody defects		
D80.9	Immunodenciency with predominantly untibody defects		
D81.0-	Combined immunodeficiencies		
D81.9			
D82.0-	Immunodeficiency associated with other major defects		
D82.9	The state of the s		
D83.0-	Common variable immunodeficiency		
D83.9	,		
D84.0-	Other immunodeficiencies		
D84.9			
D86.0	Sarcoidosis of lung		
D86.1	Sarcoidosis of lymph nodes		
D86.2	Sarcoidosis of lung with sarcoidosis of lymph nodes		
D86.85	Sarcoid myocarditis		
D89.0-	Other disorders involving the immune mechanism, not elsewhere classified		
D89.9			
E34.00-	Carcinoid syndrome		
E34.09	·		
E85.0-E85.9	Amyloidosis		
E88.01	Alpha-1-antitrypsin deficiency		
E88.02	Plasminogen deficiency		
E88.09	Other disorders of plasma-protein metabolism, not elsewhere classified		

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I88.0-I88.9 No I89.1 Ly I89.8 Ot I89.9 No J15.3 Pn	ther encephelopathy onspecific lymphadenitis ymphangitis ther specified noninfective disorders of lymphatic vessels and lymph nodes oninfective disorder of lymphatic vessels and lymph nodes.		
I88.0-I88.9 No I89.1 Ly I89.8 Ot I89.9 No J15.3 Pn	onspecific lymphadenitis ymphangitis ther specified noninfective disorders of lymphatic vessels and lymph nodes		
I89.1 Ly I89.8 Ot I89.9 No J15.3 Pn	ymphangitis ther specified noninfective disorders of lymphatic vessels and lymph nodes		
I89.8 Ot I89.9 No J15.3 Pn	ther specified noninfective disorders of lymphatic vessels and lymph nodes		
I89.9 No J15.3 Pn			
J15.3 Pn	ninfective disorder of lymphatic vessels and lymph nodes, unspecified		
	neumonia due to streptococcus, group B		
1 11 5.4 I PN	umonia due to streptococcus, group B umonia due to other streptococci		
	umonia due to other streptococci ral effusion, not elsewhere classified		
	leural effusion, not elsewhere classified Aalignant pleural effusion		
	leural effusion in other conditions classified elsewhere		
	hylous effusion		
	eiter's disease		
M02.39	eiter 3 disease		
	ydatidiform mole		
001.0	yddidiioi ii iilole		
	lighted ovum and nonhydatidiform mole		
	uman immunodeficiency virus [HIV] disease complicating pregnancy		
098.719	unian initiation deficiency virus [111v] disease complicating pregnancy		
	nlarged lymph nodes		
	achexia		
	nconclusive laboratory evidence of human immunodeficiency virus [HIV]		
	bnormal immunological finding in serum, unspecified		
	omplications of bone marrow transplant		
T86.09	omplications of bothe marrow transplant		
	omplications of kidney transplant		
T86.19	omplications of kidney transplant		
	omplications of heart transplant		
T86.298	omplications of heart transplant		
	omplications of heart-lung transplant		
T86.39	omplications of heart lung transplant		
	omplications of liver transplant		
T86.49	omplications of liver transplant		
	omplications of stem cell transplant		
	omplications of stem centralisplant		
T86.819	omprisations of faring danisplant		
·	omplications of intestine transplant		
T86.859	ompressions of measure danapiane		
	ther transplanted tissue rejection		
	ther transplanted tissue failure		
	ther transplanted tissue infection		
	Other complications of other transplanted tissue		
	Asymptomatic human immunodeficiency virus [HIV] infection status		
	Encounter for aftercare following organ transplant		
Z48.298	negatives. To: arcardare following organi cranoplant		
	nspecified donor, stem cells		
· · · · · · · · · · · · · · · · · · ·	utologous donor, stem cells		
	ther blood donor, stem cells		
	one marrow donor		

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ICD-10-CM Diagnosis	Description	
Codes		
Z52.4	Kidney donor	
Z52.6	Liver donor	
Z52.89	Donor of other specified organs or tissues	
Z76.82	Awaiting organ transplant status	
Z85.6	Personal history of leukemia	
Z85.71	Personal history of Hodgkin lymphoma	
Z85.72	Personal history of non-Hodgkin lymphomas	
Z85.79	Personal history of other malignant neoplasms of lymphoid, hematopoietic and	
	related tissues	
Z94.0	Kidney transplant status	
Z94.1	Heart transplant status	
Z94.2	Lung transplant status	
Z94.3	Heart and lungs transplant status	
Z94.4	Liver transplant status	
Z94.81	Bone marrow transplant status	
Z94.82	Intestine transplant status	
Z94.83	Pancreas transplant status	
Z94.84	Stem cells transplant status	
Z94.89	Other transplanted organ and tissue status	

Not Covered or Reimbursable:

ICD-10-CM	Description
Diagnosis Codes	
	All other diagnosis codes

^{*}Current Procedural Terminology (CPT®) ©2024 American Medical Association: Chicago, IL.

General Background

A flow cytometer separates, classifies and counts cells that are suspended in a moving fluid medium as they pass through a beam of light. This method may be used to evaluate cells from blood, bone marrow, body fluids such as cerebrospinal fluid (CSF), or tumor tissue. Unlike other biochemical techniques, flow cytometry makes these multiparametric measurements on single cells as opposed to population measurements (National Institutes of Health, 2025).

Flow cytometry is an established laboratory test that measures cell surface antigen expression, also known as immunophenotyping. It is clinically useful for the diagnosis and prognosis of hematopoietic cancers, including lymphomas and leukemia, plasma cell neoplasms, myelodysplastic syndromes, myeloproliferative neoplasms, and certain anemias (Borowitz, 2014; Craig and Foon, 2008). Flow cytometry is commonly used to detect the presence of minimal residual disease and antigens used as therapeutic drug targets for cancer therapy. Professional society consensus support is noted in the National Comprehensive Cancer Network (NCCN®) Guidelines (2026 and 2025) for certain cancer types as noted below in the Professional Societies/Organizations section.

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Other uses of flow cytometry include monitoring lymphocyte populations, (e.g., T-cells, natural killer [NK] cells) in an individual with a primary immunodeficiency disorder or human immunodeficiency virus/acquired immunodeficiency syndrome [HIV/AIDs]) by tracking the number and ratio of antigen-specific T cells (CD4, CD8). CD4 T-cell counting in peripheral blood of HIV1 patients using flow cytometry is considered routine practice in clinical laboratories as an important tool in the management of HIV disease. Specifically, CD4 counts are used as a measure of the degree of immune deficiency, eligibility of HIV1 patients for antiretroviral treatment and to monitor immune restoration in an individual receiving antiretroviral therapy. CD4 T-cell counting is a valuable tool for directing treatment against opportunistic infections (Kestens and Mandy, 2017). It is also clinically useful to detect chimerism and rejection following transplantation, and to monitor the toxicity or effectiveness of immunosuppressive therapy (Antin, et al., 2001).

Flow cytometry is considered the most sensitive and informative assay available for diagnosis of paroxysmal nocturnal hemoglobinuria (PNH). It is considered the gold standard for identifying peripheral blood cells that are missing glycosylphosphatidylinositol (GPI)-anchored proteins (National Organization for Rare Disorders [NORD], 2024; Parker, 2016; Borowitz, et al., 2010).

Flow cytometry is considered a standard laboratory method to assess deoxyribonucleic acid (DNA) ploidy in gestational trophoblastic disease, including molar pregnancies; however, it is also proposed as a method to measure nuclear deoxyribonucleic acid (DNA) content (i.e., ploidy) and cell proliferation activity (i.e., S-phase fraction) for cancer in solid tumors. Correlation of ploidy and DNA activity with proliferation and aggressiveness of disease is primarily limited to retrospective, correlational studies. There are limited data in the published scientific literature to demonstrate improved health outcomes for this indication. Likewise, there is a lack of professional society consensus by way of published guidelines and recommendations for this purpose. The role of flow cytometry, including to determine ploidy and cell proliferation activity, has not been established for cancer in solid tumors. Use of multiparametric flow cytometry in solid tumors is of ongoing research interest.

Literature Review

Borowitz (2014) notes the literature is confusing and contradictory regarding the use of flow cytometry to determine DNA ploidy and that the early promise of this measurement as an important diagnostic and prognostic marker in cancer has not been realized. Although some studies have demonstrated prognostic significance to measurements of ploidy, and especially Sphase fraction, in a number of tumors—most specifically bladder, prostate, and breast cancer—many studies conflict, and as a result, this technology has not been widely embraced in clinical oncology. DNA flow cytometry has largely been replaced by molecular prognostic markers. It is unlikely that these techniques will be adopted in routine clinical practice.

Ye et al. (2019) compared the ability of flow cytometry (FCM) and cytomorphology (CM) in detecting neuroblastoma cells in 21 patients with neuroblastoma metastasis. Bone marrow and effusion specimens were analyzed by flow cytometry and cytomorphology. Cytomorphology detected three effusions not detected by flow cytometry. There was no significant difference between FCM and CM in the detection of NB cells in effusions (p = 0.344). Further studies are needed to demonstrate improved health benefits for the use of flow cytometry compared to conventional cytomorphology techniques.

Ludovini et al. (2008) reported on a study evaluating the relationship between a panel of biological markers (p53, Bcl-2, HER-2, Ki67, DNA ploidy and S-phase fraction) and clinical-pathological parameters and its impact on outcomes in non-small cell lung cancer (NSCLC). Tumor tissue specimens were collected from 136 consecutive patients with NSCLC following surgical resection. An immunocytochemical technique and flow cytometric DNA analysis were used to evaluate p53, Bcl-2, HER-2 and Ki67. Positivity of p53, Bcl-2, HER-2 and Ki67 was detected in

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51.4 %, 27.9 %, 25.0 % and 55.8 % of the samples, respectively; 82.9 % of the cases revealed aneuploid DNA histograms and 56.7 % presented an S-phase fraction of more than 12 %. At univariate analysis, high Ki67 proved to be the only marker associated with disease-free survival (p = 0.047). After adjusting for stage, none of the examined immunocytochemical markers emerged as an independent factor for disease-free and overall survival; only pathological stage was identified as an independent prognostic factor for disease-free survival (p = 0.0001) and overall survival (p = 0.0001). The authors concluded that the findings do not support a relevant prognostic role of immunocytochemical markers in NSCLC.

Dayal et al. (2013) published results of a retrospective correlational study reporting on the application of multiparameter flow cytometry and to examine the clinical and biomarker associations in 201 formalin-fixed, paraffin-embedded FFPE previously banked breast cancer specimens. Tumors were grouped into four categories based on the DNA index of the tumour cell population. Univariate statistical analysis demonstrated significant association with tumor category and prognosis in three of four tumor groups; however, an independent association between tumor DNA content and overall survival was not confirmed by multivariate analysis. Further study is indicated before flow cytometry can be considered a standard clinical practice for the detection of breast cancer ploidy or DNA index.

Wolfson et al. (2008) reported results of a retrospective study looking for possible associations between measurements of DNA index (DI), S-phase fraction (SPF) and tumor heterogeneity (TH) using flow cytometry in 57 patients with invasive cervical carcinoma. Patients had International Federation of Obstetrics and Gynecology Stages IB2 through IVB cervical carcinomas treated with definitive radiotherapy with or without concurrent chemotherapy. With a median follow-up of 3.7 years, there were no statistically significant associations by univariate analysis for DI, SPF, or TH and patient outcome or survival. The authors note additional studies are indicated to identify tumor biomarkers that could predict patients at risk for disseminated disease.

Davis et al. (2007) published international consensus recommendations regarding the use of flow cytometery for hematologic neoplasia. Uses recommended are cytopenias, elevated leukocyte count, identification of blasts in the marrow or peripheral blood, plasmacytosis or monoclonal gammopathy, tissue-based lymphoid neoplasia, lymph adenopathy, staging disease to document the extent of involvement, detecting potential therapeutic targets, assessment of response to therapy (e.g., minimal residual disease), documentation of progression or relapse, diagnosis of related disease (e.g., treatment-related or coincidental), documentation of disease acceleration, and prognostication.

Professional Societies/Organizations National Cancer Institute ([NCI], 2025, 2024):

- Adult soft tissue sarcoma (2025): flow cytometry is one of several techniques that may allow identification of particular subtypes within the major histologic categories
- Transitional cell cancer of the renal pelvis and ureter (2024):
 - Regarding prognosis, DNA ploidy has not added significant prognostic information beyond that provided by stage and grade.
 - In metastatic disease, flow cytometry analysis identifies low-stage, low-grade tumors at high risk of recurrence by virtue of their aneuploidy histograms.
- Neuroblastoma (2025): Regarding prognosis, low-risk tumors are hyperdiploid when examined by flow cytometry. In contrast, in high-risk neuroblastoma, tumors are near diploid or near tetraploid by flow cytometric measurement.
- Ovarian epithelial cancer (2025): DNA flow cytometric analysis of tumors from patients with stage I and stage IIA disease may identify those at high-risk

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Prostate cancer (2025): the tumor marker DNA ploidy is associated with the outcome of
patients with prostate cancer, but it has not been prospectively validated and is not a part
of the routine management of patients

The National Comprehensive Cancer Network (NCCN®): The NCCN Guidelines (2026, 2025) notes that flow cytometry may be used to assess the following hematologic lymphoid cancers:

- Acute lymphoblastic leukemia
- Chronic myeloid leukemia
- Lymphomas
- Hairy cell leukemia
- Myeloproliferative neoplasms
- Myelodysplastic syndromes
- Multiple myeloma
- Systemic mastocytosis
- Waldenstrom's macroglobinemia

Flow cytometry is not mentioned as a laboratory method used for the diagnosis or management of solid tumors, including any of the following: bladder, brain, breast, colon, endometrium, gastric, kidney, lung, neuroblastoma, ovary, prostate or rectum.

International Bone Marrow Transplant Registry (IBMTR) and the American Society of Blood and Marrow Transplantation (ASBMT): Antin et al. (2001) published recommendations from a workshop at the 2001 Tandem Meetings of the IBMTR/ASBMT concerning the establishment of complete- and mixed-donor chimerism following allogeneic lymphohematopoietic transplantation and the role of flow cytometry in determining chimerisms of neutrophil, monocyte, and lymphocyte fractions.

Health Equity Considerations

Health equity is the highest level of health for all people; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which people are born, grow, live, work, and age.

Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include safe housing, transportation, and neighborhoods; racism, discrimination and violence; education, job opportunities and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

Flow cytometry is used to diagnose and to determine the prognosis of many conditions including cancers, HIV, gestational trophoblastic disease and organ and tissue transplantation. For all cancers combined, non-Hispanic black men have the highest rate of new cancer diagnoses, and non-Hispanic Asian/Pacific Islander men have the lowest rate of new cancer diagnoses. The rate of new cases for men was 478.7 per 100,000 men per year. The most common cancers in men are prostate, lung and bronchus, and colorectal. For all cancers combined, non-Hispanic white women have the highest rate of new cancer diagnoses. The most common cancers in women are breast, lung and bronchus, and colorectal. The rate of new cases for women was 416.7 per 100,000 women per year. HIV is also used in the diagnosis and treatment of HIV. In 2018, African Americans/Blacks accounted for 42% of the 37,968 new HIV diagnoses in the United States and dependent areas. Of the 37,968 new HIV diagnoses in the US and dependent areas in 2018:

• 42% were among adult and adolescent African Americans/Blacks

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- 31% were among African American/Black men
- 11% were among African American/Black women

African Americans/Blacks represented 43% of deaths of any cause of people diagnosed with HIV. A recent study showed that African Americans/Blacks diagnosed with HIV are less likely than other groups to be linked to care, retained in care, receive antiretroviral treatment, and achieve adequate viral suppression (Centers for Disease Control and Prevention [CDC], 2024).

Medicare Coverage Determinations

	Contractor	Determination Name/Number	Revision Effective Date
NCD		No National Coverage Determination found	
LCD	CGS Administrators, LLC	Flow Cytometry (L34037)	2/27/2025
LCD	Noridian Healthcare Solutions, LLC	Lab: Flow Cytometry (L34215)	4/8/2021
LCD	Noridian Healthcare Solutions, LLC	Lab: Flow Cytometry (L36094)	4/8/2021
LCD	Palmetto GBA	Lab: Flow Cytometry (L34513)	8/10/2023

Note: Please review the current Medicare Policy for the most up-to-date information. (NCD = National Coverage Determination; LCD = Local Coverage Determination)

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- 4. American Cancer Society. Non-Hodgkin Lymphoma (Adults). 2025. Accessed Jul 23, 2025. Available at URL address: https://www.cancer.org/cancer/types/non-hodgkin-lymphoma.html
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Revision Details

Type of Revision	Summary of Changes	Date
Focused Review	No clinical policy statement changes	10/15/2025
Annual Review	 No clinical policy statement changes 	9/15/2025
Annual Review	 No clinical policy statement changes 	9/15/2024
Annual Review	Updated to new template and formatting standards.No changes to criteria	10/15/2023

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