

TABLE 3

## INHERITED CANCER RISK

Cancers	Syndrome	Associated Gene(s)
Leukemias and lymphomas	Ataxia telangiectasia	<i>ATM</i>
Basal cell carcinoma and medulloblastoma	Basal cell nevus syndrome	<i>PTCH1, PTCH2, SUFU</i>
All cancers	Bloom syndrome	<i>BLM</i>
Breast, ovarian, pancreatic, and prostate cancers	Breast-ovarian cancer syndrome	<i>BRCA1, BRCA2</i>
Breast, thyroid, and endometrial cancers	Cowden syndrome	<i>PTEN</i>
Breast and stomach cancers	Diffuse gastric and lobular breast cancer syndrome	<i>CDH1</i>
Colorectal cancer, medulloblastoma	Familial adenomatous polyposis	<i>APC</i>
Melanoma and pancreatic cancer	Familial atypical multiple mole-melanoma syndrome	<i>CDKN2A</i>
Glioblastoma and melanoma	Familial glioma-melanoma syndrome	<i>CDKN2A</i>
Retinal cancer, pineoblastoma, and bone and soft tissue sarcomas	Retinoblastoma predisposition syndrome	<i>RB1</i>
Leukemia and myelodysplastic syndrome (MDS)	Inherited bone marrow failure syndromes, such as Fanconi's anemia and telomere syndromes	<i>FANCC, FANCF, FANCB, FANCS, BRCA1, TERT, TERC</i>
Kidney cancer and uterine fibroids	Hereditary leiomyomatosis and renal cell cancer	<i>FH</i>
Pancreatic cancer	Hereditary pancreatitis/familial pancreatitis	<i>PRSS1, SPINK1</i>
Leukemias, breast cancer, glioblastoma, choroid plexus carcinoma, adrenocortical carcinoma, and bone and soft tissue cancers	Li-Fraumeni syndrome	<i>TP53</i>
Low grade gliomas, neurofibromas, neurofibrosarcomas, meningiomas, and ependymomas	Neurofibromatosis type I and neurofibromatosis type II	<i>NF1 and NF2</i>
Glioblastoma, colorectal cancer, and endometrial cancer	Brain tumor polyposis type I	<i>MLH1, PMS2</i>
Medulloblastoma, abdominal desmoid tumors, and colorectal cancer	Brain tumor polyposis type II	<i>APC</i>
Colorectal and endometrial cancers	Lynch syndrome	<i>EPCAM, MLH1, MSH2, MSH6, PMS2</i>
Rhabdoid tumors of brain, kidney, and extra-renal sites	Rhabdoid predisposition syndrome	<i>hSNFS, INI1</i>
Subependymal giant cell astrocytoma, renal angioliomas, and cardiac rhabdomyomas	Tuberous sclerosis complex	<i>TSC1 and TSC2</i>
Leukemias, lymphomas, and MDS	Hereditary myeloid malignancy syndromes, such as familial MDS/acute myeloid leukemias	<i>RUNX1, GATA2, CEBPA, ETV6, DDX41, ANKRD26, ATG2B/GSKIP</i>
Pineoblastoma, pleuro-pulmonary blastoma, lymphoma, and glioblastoma	DICER syndrome	<i>DICER1</i>
Pancreatic cancers, pituitary adenomas, and benign skin and fat tumors	Multiple endocrine neoplasia 1	<i>MEN1</i>
Thyroid cancer and pheochromocytoma	Multiple endocrine neoplasia 2	<i>RET, NTRK1</i>
Pancreatic, liver, lung, breast, ovarian, uterine, and testicular cancers	Peutz-Jeghers syndrome	<i>STK11/LKB1</i>
Tumors of the spinal cord, cerebellum, retina, adrenals, and kidneys	von Hippel-Lindau syndrome	<i>VHL</i>
Kidney cancer	Wilms' tumor	<i>WT1</i>
Skin cancer	Xeroderma pigmentosum	<i>XPD, XPB, XPA</i>

This list is not meant to be exhaustive, but contains some of the more commonly occurring cancer syndromes.

Source: <http://www.cancer.gov/about-cancer/causes-prevention/genetics/risk-assessment-pdq> and <https://rarediseases.info.nih.gov/diseases/diseases-by-category/1/rare-cancers>