Texas Children's	Genetic Testing Guidelines	
Guideline # 6181	***Categories*** Clinical →Care Coordination, Care Coordination – Utilization management, TCHP Guidelines	***This Guideline Applies To:*** Texas Children's Health Plan ***Document Owner*** Lisa Fuller

GUIDELINE STATEMENT:

Texas Children's Health Plan (TCHP) performs authorization of genetic testing requests.

PRIOR AUTHORIZATION GUIDELINES

1. Authorization of genetic testing conducted by out-of-network providers will comply with the out-of-network authorization guidelines.

2. All requests for prior authorization for genetic testing are received via online submission, fax, phone or mail by the Utilization Management Department and processed during normal business hours.

3. The Utilization Management professional receiving the request evaluates the submitted information to determine if the documentation supports the genetic testing as an eligible service.

4. Documentation supporting the medical necessity of the test requested must be provided. A completed Special Medical Prior Authorization (SMPA) Request Form must be signed, dated, and submitted by the ordering provider rendering direct care. Requests from laboratories will not be processed.

5. A request for retroactive authorization must be submitted no later than seven calendar days beginning the day after the lab draw is performed.

6. Utilization Management professionals will utilize the most recent available version of InterQual® criteria for genetic testing to establish medical necessity with the following exception:

   6.1 TCHP will apply clinical criteria for approval as well as any applicable coverage exclusions in the current Texas Medicaid Provider Manual (TMPPM) for:
   - BRCA gene mutation analysis
   - Genetic testing for colorectal cancer
   - Cytogenetic testing
   - Pharmacogenomic testing

- Biomarker testing

7. TCHP considers the following as indications for medically necessary genetic testing:

   7.1. Preconception or prenatal carrier screening recommended by the American College of Obstetricians and Gynecologists (ACOG):
   - Spinal Muscular Atrophy
   - Cystic Fibrosis
   - Hemoglobinopathies
   - Genetic Conditions in individuals of Eastern and Central European Jewish descent
   - Tay Sachs Disease

   7.2. Preconception or prenatal carrier screening for couples of Ashkenazi Jewish ancestry with a panel of genetic tests as recommended by the American College of Medical Genetics (ACMG) and American College of Obstetricians and Gynecologists (ACOG) including:
   - Tay-Sachs disease
   - Canavan disease
   - Cystic fibrosis
   - Familial dysautonomia
   - Bloom syndrome
   - Familial Hyperinsulinism,
   - Niemann-Pick disease
   - Usher Syndrome
   - Mucolipidosis IV
   - Fanconi anemia
   - Gaucher Disease
   - Glycogen Storage Disease type I
   - Joubert Syndrome
   - Maple Syrup Urine Disease

   7.3. Preconception or prenatal carrier screening for cystic fibrosis and spinal muscular atrophy does not require prior authorization and is a benefit once per lifetime of the member

8. Genetic testing of the individual's genome for inherited diseases is considered **medically necessary** when the following criteria are met:

   8.1. The individual for whom the test is requested is asymptomatic but is judged to be at significant risk, as determined by the likelihood of future disease and burden of suffering, for a genetic disease (for example, based on family history); ***Or***

   8.2. Is currently symptomatic with suspicion of a known genetic disease and **all** of the following:
   - A specific mutation, or set of mutations, has been established in the scientific literature to be reliably associated with the disease.
   - Results of the genetic test, whether affirmative or negative, will impact the clinical management (predictive, diagnostic, prognostic or therapeutic) of the individual. For example, genetic test results will guide treatment decisions, surveillance recommendations or preventive strategies.

- The findings of the genetic test will likely result in an anticipated improvement in net health outcomes; that is, the expected health benefits of the interventions outweigh any harmful effects (medical or psychological) of the intervention.
- Testing is accompanied by genetic counseling.

8.3. The individual is suspected of having **one** of the following diagnosis (this list is not all-inclusive):

- Achondroplasia (FGFR3)
- Albinism
- Alpha-1 antitrypsin deficiency (SERPINA1)
- Classical lissencephaly
- Congenital adrenal hyperplasia/21 hydroxylase deficiency (CYP21A2)
- Congenital amegakaryocytic thrombocytopenia
- Congenital central hypoventilation syndrome (PHOX2B)
- Congenital muscular dystrophy
- Type 1C (MDC1C) (FKRP (Fukutin related protein))
- Crouzon syndrome (FGFR2, FGFR3)
- Dentatorubral-pallidoluysian atrophy
- Dysferlin myopathy
- Ehlers-Danlos syndrome
- Emery-Dreifuss muscular dystrophy (EDMD1, 2, and 3)
- Familial Mediterranean fever (MEFV)
- Facioscapulohumeral muscular dystrophy (FSHMD1A)
- Friedreich's ataxia (FRDA (frataxin))
- Gitelman's syndrome
- Hemoglobin E thalassemia 10.3.20. Hemoglobin S and/or C
- Hereditary amyloidosis (TTR variants)
- Hereditary deafness (GJB2 (Connexin-26, Connexin-32))
- Hereditary hemorrhagic telangiectasia (HHT)
- Hereditary hemochromatosis (HFE)
- Hereditary leiomyomatosis and renal cell cancer (HLRCC) syndrome (fumarate hydratase (FH) gene)
- Hereditary neuropathy with liability to pressure palsies (HNPP)
- Hereditary non-polyposis colorectal cancer (HNPCC) (MLH1, MSH2, MSH6.MSI)
- Hereditary pancreatitis (PRSS1)
- Hereditary paraganglioma (SDHD, SDHB)
- Hypochondroplasia (FGFR3)
- Jackson-Weiss syndrome (FGFR2) Kallmann syndrome (FGFR1)
- Kennedy disease (SBMA)
- Leber hereditary optic neuropathy (LHON)
- Leigh Syndrome and NARP (neurogenic muscle weakness, ataxia, and retinitis pigmentosa)
- Limb girdle muscular dystrophy (LGMD1, LGMD2) (FKRP (Fukutin related protein))
- Malignant hyperthermia (RYR1)
- McArdle's disease
- Medium chain acyl coA dehydrogenase deficiency (ACADM)
- Medullary thyroid carcinoma

- MELAS (mitochondrial encephalomyopathy with lactic acidosis and stroke- like episodes) (MTTL1, tRNAleu)
- Mucopolysaccharidoses type 1 (MPS-1)
- Muenke syndrome (FGFR3)
- Multiple endocrine neoplasia type 1
- Muscle-Eye-Brain disease (POMGNT1)
- MYH-associated polyposis (MYH)
- Myoclonic epilepsy (MERRF) (MTTK (tRNAlys))
- Myotonic dystrophy (DMPK, ZNF-9)
- Nephrotic syndrome, congenital (NPHS1, NPHS2)
- Neurofibromatosis type 1 (NF1, neurofibromin)
- Neurofibromatosis type 2 (Merlin)
- Neutropenia, congenital cyclic
- Phenylketonuria (PAH)
- Pfeiffer syndrome (FGFR1)
- Prader-Willi-Angelman syndrome (SNRPN, GABRA5, NIPA1, UBE3A, ANCR, GABRA)
- Primary dystonia (TOR1A (DYT1))
- Prothrombin (F2 (Factor II, 20210G> A mutation))
- Pyruvate kinase deficiency (PKD)
- Retinoblastoma (Rh)
- Saethre-Chotzen syndrome (TWIST, FGFR2)
- Smith-Lemli-Opitz syndrome
- Spinocerebellar ataxia (SCA types 1, 2, 3 (MJD), 6 (CACNA1A), 7, 8, 10, 17 and DRPLA)
- Thanatophoric dysplasia (FGFR3)
- Von Gierke disease (G6PC, Glycogen storage disease, Type 1a)
- Walker-Warburg syndrome (POMGNT1)
- 22q11 deletion syndromes (DCGR (CATCH-22))

8.4 Whole genome sequencing (CPT 81425) and whole exome sequencing (CPT 81415) requires prior authorization and is considered medically necessary only for members under 21 years of age when ALL criteria are met as outlined in **TMPPM section 3.4.1 Authorization Requirements for Whole Genome Sequencing and Whole Exome Sequencing**

- Only one genomic sequencing test (WES or WGS) is allowed per lifetime
- Medically necessary conditions include but are not limited to:
  - Global developmental delay
  - Epileptic encephalopathy with onset <3 years
  - Congenital anomalies affecting multiple systems
  - Unexplained neurodevelopmental regression

9. Condition-specific situations which are considered **medically necessary** include:

9.1. Suspicion of catecholaminergic polymorphic ventricular tachycardia (CPVT) in:

- Children or young adults (less than 40 years of age) with a 1st degree relative with a clinical diagnosis of CPVT, or a 1st or 2nd degree relative with a defined CPVT mutation **or**

- Persons who display exercise- or emotion-induced PVT or ventricular fibrillation, occurring in a structurally normal heart.

9.2. Factor V Leiden genetic testing for members with **any** of the following indications:
- Age less than 50, any venous thrombosis
- Myocardial infarction in female smokers under age of 50
- Recurrent venous thrombosis
- Relatives of individuals with venous thrombosis under age of 50
- Venous thrombosis and a strong family history of thrombotic disease
- Venous thrombosis in pregnant women or women taking oral contraceptives
- Venous thrombosis in unusual sites (such as hepatic, mesenteric, and cerebral veins)

9.3. Genetic testing in asymptomatic blood relatives of persons with genetically confirmed Thoracic Aortic Aneurysms (TAAD).

9.4. Genetic testing for COL1A1 and COL1A2 gene sequencing in the management of osteogenesis imperfecta types I to IV for **any** of the following indications:
- Genetic testing for sequence variants in COL1A1/2 to confirm the presence of mosaicism in the asymptomatic parent of a child with OI caused by sequence variants in COL1A1/2 for reproductive decision making purposes
- Preimplantation genetic diagnosis or prenatal diagnosis for sequence variants in COL1A1/2 in couples in which 1 or both members have OI caused by sequence variants in COL1A1/2.

9.5. Cadherin-1 (e-cadherin, CDH1) for hereditary diffuse gastric cancer (HDGC) necessary for persons who meet **any** of the following criteria:
- Individuals with HDGC for the purpose of identifying a CDH1 gene sequence variant that may be used to screen at-risk first- and second-degree relatives
- Pre-symptomatic testing of first- and second-degree at-risk relatives for a known familial variant in the CDH1 gene.

9.6. Genetic testing for maturity-onset diabetes of the young (MODY) in persons with hyperglycemia or non-insulin-dependent diabetes who have **any** of the following:
- A family history of abnormal glucose metabolism in at least 2 consecutive generations.
- 1 or more family members diagnosed before age 25.

9.7. TP53 gene testing in individuals with a suspected or known clinical diagnosis of Li-Fraumeni syndrome (LFS) or Li-Fraumeni-Like syndrome, or a known family history of a TP53 mutation.

9.8. For members with a diagnosis of Autism the following genetic testing may be considered medically necessary if documentation supporting the medical necessity of the test requested is submitted as recommended by the American College of Medical Genetics (ACMG):
- Chromosomal Microarray (CMA)
- Fragile X syndrome (FMR1)
- Karyotype

- Methyl-CPG-binding protein 2 (MECP2) spectrum disorders in girls with signs or symptoms of Rett Syndrome
- Phosphatase and tensin homolog (PTEN) in boys with signs or symptoms of PTEN related conditions

These tests may be considered when all of the following criteria are met:

9.8.1. The diagnosis of a disorder or syndrome is not readily apparent based on a clinical evaluation alone.

9.8.2. Documentation shows that the results of the testing have the potential to impact the clinical management of the member.

9.9. Expanded Carrier Screening (ECS) requires prior authorization and is limited to once per lifetime for females ages 10-55 who are pregnant or planning pregnancy and is considered medically necessary when ALL criteria are met as outlined in **TMPPM section 3.4.2 Authorization Requirements for Expanded Carrier Screening (ECS**)

9.10. BRCA testing requires prior authorization and must meet requirements outlined in **TMPPM section 3.5 Breast Cancer Gene 1 and 2 (BRCA) Testing**

9.11. Colorectal Cancer Genetic Testing requires prior authorization and must meet requirements outlined in **TMPPM section 9.2.15.2 Genetic Testing for Colorectal Cancer**

9.12. FoundationOne Testing (CPT 0037U and 0239U) requires prior authorization and is a benefit once per lifetime per cancer type and must meet requirements outlined in **TMPPM section 3.4.3 Prior Authorization for FoundationOne**

9.13. Transplant Rejection Testing (Heart only) requires prior authorization and must meet requirements outlined in **TMPPM section 3.4.4 Prior Authorization for Transplant Rejection Testing**

9.14. ClonoSEQ Testing (Minimal Residual Disease Detection) (0364U) requires prior authorization and must meet requirements outlined in **TMPPM section 3.1 Clonoseq**

- Procedure code 0364U is limited to six times per rolling year by any provider.

9.15. Enhanced Liver Fibrosis (ELF) Testing requires prior authorization and must meet requirements outlined in **TMPPM section 3.2 Enhanced Liver Fibrosis (ELF) (Procedure code 81517**

9.16. Breast cancer index (BCI) Testing requires prior authorization and must meet requirements outlined in **TMPPM section 9.2.15.4 Prognostic Breast and Gynecological Cancer Studies**

10. In the absence of specific information regarding advances in the knowledge of mutation characteristics for a particular disorder, the current literature indicates that genetic tests for inherited disease need only be conducted once per lifetime of the member.

11. Genetic testing of Texas Children's Health Plan members is not covered when the testing is performed primarily for the medical management of other family members who are not Texas

Children's Health Plan members. In these circumstances, the insurance carrier for the family members who are not covered by Texas Children's Health Plan should be contacted regarding coverage of genetic testing. Texas Children's Health Plan does not cover genetic testing for heritable disorders in non-Texas Children's Health Plan members even when it will provide genetic information for a TCHP member with the **exception of**:

- Whole exome sequencing or whole genome sequencing of comparator genomes such as parents or siblings (WES procedure code 81416 or WGS procedure code 81426). Procedure codes 81416 and 81426 may be a benefit up to a maximum of twice per lifetime.
  - Prior authorization is required and must meet medical necessity criteria as outlined in **TMPPM section 3.4.1 Authorization Requirements for Whole Genome Sequencing and Whole Exome Sequencing**

12. Requests that do not meet the criteria established by this procedure as well as panel testing will be referred to a TCHP Medical Director/Physician Reviewer for review and the Denial Policy will be followed.

13. Preauthorization is based on medical necessity and not a guarantee of benefits or eligibility. Even if preauthorization is approved for treatment or a particular service, that authorization applies only to the medical necessity of treatment or service. All services are subject to benefit limitations and exclusions. Providers are subject to State and Federal Regulatory compliance and failure to comply may result in retrospective audit and potential financial recoupment.

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