group health Cooperative of eau claire	DEPARTMENT:	Utilization Management
	SUBJECT:	Genetic Testing
	PRODUCT LINE:	All
	POLICY NUMBER:	033
	ORIGINAL POLICY EFFECTIVE DATE:	03/04/07
KMTSJ, Inc.	LAST REVISED DATE:	3/27/2020
	LAST REVIEWED DATE:	2/15/2022

POLICY: It is the policy of Group Health Cooperative of Eau Claire to review all requests for genetic testing in the Health Management Department.

PROCEDURE: **Prior Authorization: YES**

Genetic testing is the process of using laboratory tests to detect variants in a person's genes or chromosomes, or to detect changes in gene expression associated with certain diseases. Genetic testing is performed for various purposes.

- Diagnostic testing is performed to confirm an individual is affected with a specific inherited disease, such as Duchenne or Becker muscular dystrophy.
- Predictive gene testing is performed to identify gene variants that increase an individual's risk of developing an inherited disease, such as Huntington disease or BRCA1-or BRCA1-related breast cancer.
- Carrier testing is performed to determine whether couples carry a gene mutation for a disorder that could be passed on to their offspring, such as cystic fibrosis or Tay-Sachs disease.
- Prognostic testing is performed to predict how a disease might progress (ie: breast cancer genomics assays to predict recurrence in primary breast cancer).
- Prenatal genetic testing is performed to identify a potentially serious genetic condition in a fetus before birth.
- Newborn screening is performed to detect a variety of inherited conditions in newborns, such as phenylketonuria (PKU), cystic fibrosis, and sickle-cell disease, among others. The requirements for newborn screening vary from state to state.
- Providers use the results of genetic tests to glean insight into how an individual's genes affect their response to drugs (pharmacogenetic or pharmacogenomic interactions).

Coverage Criteria:

For a genetic test to be considered medically necessary, it must meet all criteria below:

1. The results of the genetic test must affect at least one of the management options considered by the referring physician and be based on evidence based standards of medical care. A covered genetic test must be used to manage a patient. GHC does not cover a genetic test for a clinically affected individual for purposes of family planning, disease risk assessment of other family members, when the treatment or management of the member will not be affected, or when the test does not directly affect the diagnosis or treatment of the member.

2. There must be a clinical basis for suspecting that the member could have the disease for which the member is being tested. Genetic testing in the absence of past or present illness are not covered.

3. Genetic tests where the only outcome would be labeling the disorder or symptoms without changing the plan of care are not medically necessary.

4. The test must be validated, reviewed, and recommended by evidence based medical sources.

5. Member must have undergone genetic counseling (with a provider who has relevant education or training in genetics, such as a genetics counselor, a geneticist, or a physician/nurse practitioner specialist with knowledge of the genetic factors of disease within his or her specialty and the testing process).

6. Multi-gene panels are not covered because many of the genes included in the panel have limited evidence of an association with the suspected disease and have no clinical significance. The most cost-effective approach for testing for a specific disease is to test for the most common variant(s).

7. Genetic tests are only conducted once in a person's lifetime unless changes in technology or treatments indicate that test results or patient outcomes would change as a result of repeat testing.

TESTING SPECIFICS: For genetic tests not listed below follow the criteria above.

Aneuploidy

Testing for aneuploidy includes MaterniT21, MaterniT21 PLUS, Verifi Prenatal Test, Harmony Prenatal Test, Panorama Prenatal Test, and QNatal Advanced

DNA-based noninvasive prenatal tests of fetal aneuploidy (which is an abnormal amount of chromosomes or genetic material) are proven and medically necessary as screening tools for trisomy 21 (Down syndrome), trisomy 18 (Edwards syndrome) or trisomy 13 (Patau syndrome) in a single birth in any of the following circumstances:

1. Maternal age of 35 years or older at delivery, **OR**
2. Fetal ultrasound findings indicating an increased risk of aneuploidy (absent or hypoplastic nasal bone, choroid plexus cyst, echogenic bowel, echogenic intracardiac focus, fetal pyelectasis, nuchal translucency, nuchal fold, ventriculomegaly, and shortened femur or humerus), **OR**
3. History of a prior pregnancy with aneuploidy, **OR**
4. Positive first- or second-trimester screening test results for aneuploidy, **OR**
5. Parental balanced Robertsonian translocation (one parent has a genetic condition) with an increased risk of trisomy 13 or trisomy 21 in the baby.

Quad Testing: No PA (Not genetic testing)

Dimeric inhibin A, human chorionic gonadotropin (hCG) with maternal serum alpha-fetoprotein (MSAFP), and unconjugated estriol) for pregnant women who have been adequately counseled and who desire information

on their risk of having a Down syndrome fetus or neural tube defects such as spina bifida is not considered genetic testing and does not require prior authorization.

The following maternal serum markers and multianalyte assays with algorithmic analyses are considered medically necessary and are covered without prior authorization. These are part of routine screening in early pregnancy and are standard of care. These are not considered genetic testing.

Maternal serum markers
84163: Pregnancy-associated plasma protein-A (PAPP-A)
84702: Gonadotropin, chorionic (hCG); quantitative 84704: Gonadotropin, chorionic (hCG); free beta chain
82105: Alpha-fetoprotein (AFP); serum
82677: Estriol
86336: Inhibin A

Multianalyte assays
81508: Fetal congenital abnormalities, biochemical assays of two proteins (PAPPA, hCG [any form]), utilizing maternal serum, algorithm reported as a risk score
81509: Fetal congenital abnormalities, biochemical assays of three proteins (PAPP-A, hCG [any form], DIA), utilizing maternal serum, algorithm reported as a risk score
81510: Fetal congenital abnormalities, biochemical assays of three analytes (AFP, uE3, hCG [any form]) utilizing maternal serum, algorithm reported as a risk score (may include additional results from previous biochemical testing
81511: Fetal congenital abnormalities, biochemical assays of four analytes (AFP, uE3, hCG [any form], DIA) utilizing maternal serum, algorithm reported as a risk score (may include additional results from previous biochemical testing)
81512: Fetal congenital abnormalities, biochemical assays of five analytes (AFP, uE3, total hCG, hyperglycosylated hCG, DIA) utilizing maternal serum, algorithm reported as a risk score

BRCA

- **BRCA 1 and 2 Testing (BRACAnalysis testing):**
  BRCA 1 and 2 Testing are considered medically necessary if member meets the testing criteria per the NCCN (National Comprehensive Cancer Network).

  If member meets criteria, a single site test will be approved.

  Associated Codes: 81162 Comprehensive BRACAnalysis *test (BRCA 1 & 2)*
  81212 Multisite 3 BRACAnalysis Test (individual of Ashkenazi Jewish ancestry)
  81214 or 81215 Single Site BRACAnalysis test: BRCA 1
  81216 or 81217 Single Site BRACAnalysis test: BRCA 2

- **BRACAnalysis Rearrangement (BART): <u>BART is considered experimental and investigational, and is not a covered benefit of any plan.</u>** BART testing (CPT 81213) is often requested when a member's BRCA 1&2 testing is normal. It detects large rearrangement mutations on BRCA 1 and BRCA 2 that may not be detected with the standard BRCA 1 & 2 testing.

  Associated Codes: 81213 BRAC Analysis Rearrangement Test (Reflex to BART)

<u>Fragile X:</u> Group Health Cooperative of Eau Claire considers genetic testing for fragile X syndrome medically necessary for the following members:

1. Individuals with mental retardation, developmental delay, or autism ***<u>or</u>***
2. Individuals planning a pregnancy who have *<u>either</u>* of the following:
   a. A family history of fragile X syndrome, **or**
   b. A family history of undiagnosed mental retardation; **AND**
   c. The results of the testing will be used to change medical management of the member.

Associated Codes: 759.83 Fragile X Syndrome
81243, 81244 FMR1 DNA testing

<u>Comparative Genomic Hybridization (CGH)/Chromosomal Microarray Analysis (CMA)</u>

Chromosomal microarray testing looks for extra (duplicated) or missing (deleted) chromosomal segments, sometimes called copy number variants. These include:

- ❖ Microdeletions and microduplications of chromosome segments, which are too small to see under a microscope, but may contain multiple genes,
- ❖ Most abnormalities of chromosome number (trisomy, monosomy, etc.), including Down syndrome,
- ❖ Most unbalanced rearrangements of chromosome structure (translocations, etc.)

Group Health Cooperative of Eau Claire (GHC) considers comparative genomic hybridization (CGH) **medically necessary** for the following indications:

- ✓ Evaluating fetuses with structural abnormalities detected on fetal ultrasound or fetal magnetic resonance imaging; or
- ✓ Analysis of stillbirths with congenital anomalies in which karyotype results cannot be obtained or are normal.

GHC considers comparative genomic hybridization **experimental and investigational** for all other indications. The following(non-exhaustive) list is considered experimental and investigational because of insufficient evidence of its effectiveness in these clinical situations:

- ➢ Detection of balanced rearrangements,
- ➢ Evaluation of unexplained epilepsies,
- ➢ Suspected genetic abnormality in children with developmental delay/intellectual disability or autism spectrum disorder,
- ➢ Screening for prenatal gene mutations in fetuses without structural abnormalities, such as in advanced maternal age, positive maternal serum screen, previous trisomy, or the presence of "soft markers" on fetal ultrasound

- Testing products of conception,
- Diagnosis of melanoma.

(NOTE: Oligo HD Scan is a type of array CGH.)

Associated Codes: 81228-81229

Group Health Cooperative of Eau Claire considers genetic testing experimental and investigational for any of the following:

- Age-related macular degeneration
- Brugada syndrome
- Choroidal neovascularization (ie: Retnagene)
- Congenital stationary night blindness
- Coronary artery disease
- Costello syndrome (HRAS gene)
- Diamond-Blackfan anemia
- Dilated cardiomyopathy (CMD1A)
- Epidermolytic hyperkeratosis
- Familial Alzheimer disease
- Familial amyotrophic lateral sclerosis (SOD1 mutation)
- Familial cold urticaria/familial cold autoinflammatory syndrome
- Familial partial lipodystrophy (FPLD2)
- Genetic testing panels for nonsyndromic hereditary hearing loss (OtoScope, OtoGenome, OtoSeq)
- Glioblastoma multiforme
- Hemiplegic migraine (HM)
- Hemophilia C (F11[Factor XI])
- Heterotaxy
- Klippel-Feil syndrome
- Lactose intolerance
- Legius syndrome (SPRED1 gene)
- Malignant melanoma
- May-Hegglin anomaly
- Mccune-Albright syndrome
- Mowat-Wilson syndrome (ZEB2 gene)
- Myoclonus-dystonia (epsilon-sarcoglycan gene [SCGE] deletion analysis
- Migrainous vertigo
- Narcolepsy
- Oculopharyngeal muscular dystrophy (OPMD)(PABPN1 gene)
- Parkinson disease
- Polycystic kidney disease
- Prostate cancer

- Seizure disorders (ie: creatinine transporter 1 sequencing for testing parents of individuals with seizures; GABRG2 mutations and SCNA deletion test for infantile febrile seizures; generalized epilepsy with febrile seizures plus (GEFS+)
- Sleep-walking
- Townes-Brocks syndrome (SALL1 gene)
- Type 2 diabetes (other than MODY)
- Very long chain acylCoA dehydrogenase deficiency (VLCADD)
- Von Willebrand factor gene testing
- EpiSEEK test for epilepsy/seizures
- Exome sequencing
- Home genetic testing
- OncoVue breast cancer risk test
- POLG1 for mitochondrial recessive ataxia syndrome
- SF3B1 and TET2 mutation for myelodysplastic syndrome
- Products of conception in the absence of recurrent pregnancy loss
- Whole genome sequencing
- Use of the following serum markers is considered experimental and investigational for **first trimester** screening for Down syndrome because their clinical use is under investigation:
  1. A Disintegrin And Metalloprotease 12 (ADAM 12)
  2. Placental protein 13 (PP13)
- Use of the following serum markers is considered experimental and investigational for **second trimester** serum marker screening for Down Syndrom because the clinical use of these markers is under invrstigation:
  1. Beta subunit of hCG
  2. Human placental lactogen
  3. Pregnancy associated plasma protein A (PAPP-A)
  4. Urinary beta-core

Reference source, if applicable: CDC, NIH, ForwardHealth

APPROVED: Michelle Bauer MD DATE: 2/15/2022

REVISION HISTORY:

Rev. Date	Revised By/Title	Summary of Revision

02/26/2013	Carol E. Ebel, RN HM Mgr	This is a continuation of the archived P & P.
02/15/2014	Lynne Komanec, RN HM Manager	Reviewed with no changes
01/23/2015	Betsy Kelly, RN	Revised.
4/22/2016	Betsy Kelly, RN	Reviewed with no updates.
11/03/2016	Betsy Kelly, RN	Removed Alpha 1 antitrypsin from experimental list.
04/25/17	Michele Bauer, MD, CMO	Reviewed with no changes aside from reformatting.
8/12/2019	Michele Bauer, MD, CMO	Reviewed with no changes in criteria.
2/2/2020	Michele Bauer, MD, CMO	Updated codes and revised general criteria.
3/27/2020	Michele Bauer, MD, CMO	Added Aneuploidy criteria from other policy and retired Aneuploidy policy.
3/17/2021	Michele Bauer, MD, CMO	Reviewed. No changes.
2/15/2022	Michele Bauer, MD, CMO	Reviewed. No changes.