

Dynacare Genetic Testing Requisition

PRESCRIBER INFORMATION		PATIENT INFORMATION	
Last Name:	_____	Last Name:	_____
First Name:	_____	First Name:	_____
Clinic:	_____	Sex at birth:	<input type="checkbox"/> F <input type="checkbox"/> M
Address:	No. _____ Street _____ Office _____	Date of Birth:	_____ (YYYY/MM/DD)
	City _____ Prov. _____ Postal Code _____	Health Insurance No.:	_____ (RAMQ, OHIP, etc.)
Tel:	_____	Address:	No. _____ Street _____ Apt _____
Fax:	_____		City _____ Prov. _____ Postal Code _____
Fax CC:	_____	Tel (primary):	_____
Licence No.:	_____	Tel (secondary):	_____
Signature:	X _____		
	Date (YYYY/MM/DD)		

PATIENT CONSENT

My signature on this form indicates that I give permission to Dynacare or affiliated laboratory to provide the laboratory test(s) indicated. I have had the opportunity to ask questions and discuss the capabilities, limitations, and possible risks of the test(s) with my healthcare provider or someone my healthcare provider has designated. I know that if I wish, I may obtain professional genetic counselling before signing this consent. I understand that my specimen will be sent to a laboratory in the United States for testing. I understand that personal information, including but not limited to my name and date of birth, will accompany the sample. Personal information held in countries outside of Canada could be subject to disclosure to government or other authorities (whether of that country or of another country). Note: For whole exome and whole genome sequencing, please read and sign the Informed Consent for Whole Exome & Whole Genome Sequencing at the end of this document.

Signature: _____ Date: _____ (YYYY/MM/DD)

REQUESTED TESTS

Test Code: _____ Test Name: _____

Test Code: _____ Test Name: _____

Test Code: _____ Test Name: _____

RNA Testing Yes* No STAT Request Yes* No

*If RNA testing is required please phone Dynacare at 888.988.1888 for further instructions *Additional fees will apply for STAT requests

ADD-ON TESTING (FOR EXOME AND GENOME TESTING ONLY)

RNA Sequencing, select one (The following assays are available as add-on tests. List or contracted pricing will apply.)

MNG Transcriptome Gene-Specific RNA Sequencing

Repeat Expansions, select one or more (The following assays are available as add-on tests. List or contracted pricing will apply.)

Huntington's disease (HTT) Fragile X (FMR1 + Methylation) C9orf72 Myotonic Dystrophy 2

Friedreich's Ataxia Spinocerebellar Ataxia (SCAs) Myotonic Dystrophy 1

PAYMENT INFORMATION	SAMPLE TYPE
<input type="checkbox"/> Patient (please include completed payment form)	<input type="checkbox"/> Whole Blood <input type="checkbox"/> Fibroblasts
<input type="checkbox"/> Ministry (please include authorization letter)	<input type="checkbox"/> Buccal Swab <input type="checkbox"/> Plasma/Serum
<input type="checkbox"/> Institution (contact us for account setup)	<input type="checkbox"/> Muscle <input type="checkbox"/> DNA Tissue: _____
	<input type="checkbox"/> Urine <input type="checkbox"/> CSF: For any CSF or frozen sample, please fax requisition to Dynacare at 450.901.3075 and send samples directly to MNG.

FAMILY MEMBER 1 INFORMATION

Last Name: _____ Relationship to Proband: _____

First Name: _____ Collection Date: _____

Date of Birth: _____ (YYYY/MM/DD) Affected? Yes No Unsure (Include clinical info)

Sex at birth: Male Female Specimen Type: _____

Whole Blood Buccal Swab DNA Tissue: _____

PATIENT INFORMATION

Last Name: _____ First Name: _____ Date of Birth: _____
(YYYY/MM/DD)

FAMILY MEMBER 2 INFORMATION

Last Name: _____ Relationship to Proband: _____
 First Name: _____ Collection Date: _____
 Date of Birth: _____ Affected? Yes No Unsure (Include clinical info)
 (YYYY/MM/DD)
 Sex at birth: Male Female
 Specimen Type: Whole Blood Buccal Swab DNA Tissue: _____

CLINICAL (CHECK ALL THAT APPLY)

Eye: <input type="checkbox"/> Retinitis Pigmentosa <input type="checkbox"/> Optic Atrophy <input type="checkbox"/> Other	Hearing <input type="checkbox"/> Sensorineural <input type="checkbox"/> Stickler <input type="checkbox"/> Usher	Neuronal Migration <input type="checkbox"/> Meckel <input type="checkbox"/> Joubert <input type="checkbox"/> Other	<input type="checkbox"/> Stroke
Cognitive/Neurobehavioral <input type="checkbox"/> Intellectual Disability (ID) <input type="checkbox"/> Syndromic ID <input type="checkbox"/> Nonsyndromic ID <input type="checkbox"/> Autism <input type="checkbox"/> Dementia	Movement Disorders <input type="checkbox"/> Ataxia <input type="checkbox"/> Episodic Ataxia <input type="checkbox"/> Dystonia <input type="checkbox"/> Chorea/Athetosis <input type="checkbox"/> Parkinson Disease <input type="checkbox"/> L-Dopa Response	Epilepsy <input type="checkbox"/> Myoclonic <input type="checkbox"/> Absence <input type="checkbox"/> Tonic Clonic <input type="checkbox"/> Epileptic Encephalopathy <input type="checkbox"/> Other	Spasticity <input type="checkbox"/> Spastic Paraplegia <input type="checkbox"/> Spastic Quadriplegia <input type="checkbox"/> Other
Cardiomyopathy <input type="checkbox"/> Dilated <input type="checkbox"/> Noncompaction <input type="checkbox"/> Hypertrophic	Arrhythmias <input type="checkbox"/> Ventricular Tachycardia <input type="checkbox"/> Brugada <input type="checkbox"/> Long or Short QT <input type="checkbox"/> Conduction Defect	Congenital Heart Defects <input type="checkbox"/> Heterotaxy <input type="checkbox"/> Other	Endocrine <input type="checkbox"/> Hypothyroidism <input type="checkbox"/> Diabetes Mellitus <input type="checkbox"/> Other
Connective Tissue & Bone <input type="checkbox"/> Ehlers Danlos <input type="checkbox"/> Marfan <input type="checkbox"/> Aneurysms <input type="checkbox"/> Other	Neuromuscular <input type="checkbox"/> Distal <input type="checkbox"/> Proximal <input type="checkbox"/> Malignant Hyperthermia <input type="checkbox"/> Periodic Paralysis <input type="checkbox"/> Muscle Atrophy	<input type="checkbox"/> Arthrogryposis <input type="checkbox"/> Statin Use <input type="checkbox"/> Contractures <input type="checkbox"/> Rhabdomyolysis <input type="checkbox"/> Myasthenia	Nerve/Anterior Horn Cell <input type="checkbox"/> Neurofibromas <input type="checkbox"/> Charcot-Marie-Tooth <input type="checkbox"/> Sensory <input type="checkbox"/> Autonomic <input type="checkbox"/> Pain <input type="checkbox"/> Motor <input type="checkbox"/> Nerve Conduction <input type="checkbox"/> Other

IMAGING (CHECK ALL THAT APPLY)

Brain MRI <input type="checkbox"/> Leigh Disease <input type="checkbox"/> Basal Ganglia Calcification <input type="checkbox"/> Stroke <input type="checkbox"/> Cerebellar Atrophy <input type="checkbox"/> Abnormal Myelin (describe)	EMG/NVC (Describe Findings): _____	EEG (Describe Findings): _____
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LABORATORY

Genetic (Describe Findings): Other: _____ **Metabolic (Describe Findings)** _____
 Chromosomal Microarray
 Deletion/Insertion Testing
 CPK: Maximum _____ Minimum _____

FAMILY HISTORY

Ethnicity (please check)
 Caucasian Sephardic Jewish African Asian
 Hispanic Ashkenazi Jewish First Nation Other: _____

Affected Maternal Lineage Relationship to Proband: _____ Symptoms: _____	Affected Paternal Lineage Relationship to Proband: _____ Symptoms: _____	Siblings Number: _____ Sex at birth: <input type="checkbox"/> Male <input type="checkbox"/> Female Symptoms: _____
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ADDITIONAL COMMENTS

Informed Consent Whole Exome & Whole Genome Sequencing

Notice to Health Care Practitioner:

This document is a consent form for clinical whole exome or whole genome sequencing. Currently, the laboratory will only accept whole exome and whole genome test requests after the patient/parent or legal guardian/next of kin has received genetic counseling from a Healthcare Provider with experience in counseling patients for such a test. Please be aware of any applicable state laws in regards to counseling needs related to the current condition, the possibilities of detecting unsuspected conditions as well as other issues related to health insurance, and possible effects on life insurance. Please explain this consent to the patient, or authorized representative/guardian, and obtain an informed consent. Please explain the list of potential incidental findings that may be reported to the patient.

Consent for WES and WGS Testing

All of the above has been explained to me, to my satisfaction, and my signature below attests to the same. I understand that this is a voluntary test, and I have had the opportunity to ask questions about alternative testing.

Whole Exome or Whole Genome Sequencing Participant:

Proband Name: _____
 Proband DOB: _____
 Signature: _____
(Parent/Guardian signature if person being tested is a minor) Date (YYYYMMDD) _____

Health Care Provider Obtaining Consent:

Print Name: _____
 NPI#: _____
 Signature: _____
 I have provided genetic counseling and have explained the risks, benefits, and limitations of WES testing to the patient/parent/guardian. Date (YYYYMMDD) _____

Additional Consent

What are incidental findings?

During testing, disease causing variants can be identified that are not related to the patient's condition for which the testing was done. These are referred to as "Incidental Findings" and indicate the presence of previously undiagnosed, potentially serious conditions that can be prevented or treated if diagnosed. A list of such conditions based on the recommendation of the American College of Medical Genetics (ACMG) is provided on the ACMG website. Please state whether you want to be informed about incidental findings in relation to the conditions listed.

How long are WES and WGS results kept in the testing lab?

The laboratory may keep the identified WES/WGS raw data in the lab indefinitely. This helps us improve our diagnostic capabilities and will help others with similar conditions. To advance the understanding of genetic disorders, your results might be analyzed and published in scientific articles in a de-identified manner consistent with HIPAA guidelines.

What will happen to my DNA sample?

No additional tests will be performed on these samples, without specific, signed authorization by the individual(s). After 60 days, unless consent is given, the sample will be destroyed.

Consent of family members submitting a sample for evaluation of patient's results:

I understand that I am submitting my sample to help evaluate the results obtained on the person being tested, and that results obtained from my sample will be used solely for this purpose. I will NOT be informed of any test results on my sample. If I request any test results, I will have to be tested separately.

Name of Family Member: _____
 Relationship to Proband: _____
 Signature: _____
 Date (YYYYMMDD) _____

Name of Family Member: _____
 Relationship to Proband: _____
 Signature: _____
 Date (YYYYMMDD) _____

Name of Family Member: _____
 Relationship to Proband: _____
 Signature: _____
 Date (YYYYMMDD) _____

1. Incidental Findings Consent (initial)

_____ (Proband Only) I would like to learn of incidental findings to the conditions listed
 _____ (Proband + Parents/Family Members) I would like to learn of incidental findings to the conditions listed
 _____ I would NOT like to learn of incidental findings to the conditions listed

2. Raw Data Storage Consent (initial)

We agree that our WES/WGS data may be stored indefinitely Proband: _____ Mother: _____ Father: _____ Other: _____	We agree that our WES/WGS data may be used for scientific publication in a de-identified manner Proband: _____ Mother: _____ Father: _____ Other: _____
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3. DNA Sample Retention Consent

Please keep my DNA used for WGS/WES for future testing should I desire such testing or if I want to participate in research in the future. I understand no additional genetic tests will be performed without my specific consent/instructions, but my DNA may be used for quality control purposes. I understand that there is no guarantee of availability of my DNA after 60 days.

Proband: _____ **Mother:** _____ **Father:** _____ **Other:** _____

Informed Consent for Patients and/or Legal Guardians:

What is whole exome sequencing (WES) and whole genome sequencing (WGS)?

Whole exome sequencing (WES) and whole genome sequencing (WGS) are genetic tests. They are performed on DNA extracted from 3 ml of blood or other acceptable tissue type. Their purpose is to identify a heritable cause of a disorder. WES examines the “exome” or coding regions of DNA, the most important information containing segment of the genome, and will often identify the cause of disease. WGS examines all of the DNA in the human genetic code including coding and non-coding regions.

The sensitivity of both tests is improved if blood is submitted from biological parents or siblings of the patient. The goal of both tests is to identify the genetic cause of the disease for which the patient is presenting. For this reason, it is crucial that a detailed description of the clinical symptoms of the patient and other affected family members is provided. Results will only be reported on the patient. Because WES and WGS results have potential consequences for the patient’s family, we recommend that the consenting and ordering process be performed with the assistance of a genetic counselor and/or the ordering physician.

What kind of results are reported?

1. Positive: Variant(s) have been identified that are known to cause the disease symptoms based on the available scientific evidence at the time of testing.
2. Indeterminate: Variant(s) have been identified that are likely to cause the disease symptoms based on the available scientific evidence at the time of testing, but there is a lack of definitive scientific evidence available to prove it.
3. Negative: No variant has been identified that is known or likely to cause the disease symptoms based on the available scientific evidence at the time of testing.

What implications do positive and negative results have?

When WES/WGS detects known disease causing variants, the test result is highly accurate. A positive result will help your clinician to better predict the course of the condition and provide you with treatment options, if they exist. The results will also help determine the risk of recurrence of the condition in other children. An indeterminate result will point to a probable cause of a condition, but you may wish to consult a genetic counselor or your physician and undergo further independent testing to confirm or rule out the proposed role. A negative result does not indicate the absence of a genetic cause and will not change the clinical diagnosis.

Are there limitations to WES and WGS testing?

WES and WGS are screening tests. There is a possibility a genetic variant caused a condition that is not identified by the WES/WGS tests either because of the technical limitations of the assays, or because of incomplete understanding of the significance of variants detected. Although WES/WGS testing is highly accurate, the interpretation of the report is based on current medical knowledge, which is not complete.

1. WES may not be able to detect genetic disorders that are caused by expansion of repetitive regions of the genome. One example is Fragile X Syndrome. If one of these types of conditions is suspected, your physician should order the appropriate test.
2. Not all regions in the human genome can be sequenced due to limitations in technology, so some variants in such regions might go undetected with WGS methodologies.

Are there results that will not be reported?

1. Samples from the patient’s relatives may be used to help diagnose the patient’s condition, but results for these relatives will not be reported independently. They will only be referred to in the report for the patient if they are directly relevant to the patient’s condition. However, the patient’s genetic results may have implications for their relatives, and it is important that these implications are discussed with a genetic counselor.
2. Variations in genes that affect susceptibility to a condition, but do not cause the person to develop the condition, will not be reported.
3. Carrier status for recessive disorders: Most people carry variants that are not disease causing but could become disease causing if that person had children with someone who was healthy but had the same variant. This is referred to as being a “carrier” for a disease. This test is not intended for determining carrier status. If you are concerned about carrier status for conditions that might run in your family, you should get tested separately for carrier status. You should discuss these implications with your genetic counselor.
 - Single heterozygous pathogenic/likely pathogenic variants in genes associated with recessive disorders that have potential overlap with a patient’s clinical presentation (as provided to our laboratory) will be reported since we cannot definitively exclude that an undetected second variant in trans may be present.
 - Single heterozygous variants of uncertain significance in genes associated with recessive disorders that have potential overlap with a patient’s clinical presentation (as provided to our laboratory) will be reported at the discretion of the laboratory director.
 - Single heterozygous variants in genes associated with recessive disorders that do not have overlap with the patient’s clinical presentation (as provided to our laboratory) will not be reported.

Who will have access to the results?

Test results are maintained electronically by the laboratory. The results are provided to the ordering physician and/or healthcare facility that ordered the test. Results may also be made available to individuals/organizations with a legal right of access under applicable Federal and/or State law, or as authorized by the patient or the patient’s representative. Patient privacy is of utmost concern to us, and as a CAP certified facility we are prepared to safeguard Protected Health Information.

What are the risks of testing?

1. Non-paternity (when the reported father of the child is not the biological father) or half sibling-ships (when siblings do not share the same father AND mother) would be detected. We do not report these findings unless they have direct clinical significance.
2. Genetic non-discrimination law prevents insurance companies from using your genetic information to deny health insurance coverage, but the law does not cover life insurance, disability insurance or long-term care insurance. The detection of an incidental condition may affect your future ability to buy these forms of insurance or get the best insurance rates. Please be aware of any applicable State laws and applicable terms of any active insurance policies in regards to consent and the release of these results to insurance companies.
3. WES/WGS may identify serious and/or untreatable genetic conditions. It can result in unexpected psychological trauma, both for you and your family. The detection of such a condition or conditions could also affect the health or healthcare needs of your siblings, children, or other close relatives.
4. Although WES/WGS is highly accurate, the interpretation of the report is based on current medical knowledge, which is not complete. We do not report out changes in interpretation of variants automatically, but we do have mechanisms to issue an updated report if requested by the patient’s physician.