GUIDELINE ON REQUIREMENTS FOR GENETIC TESTING RESEARCH

In addition to the standard elements of consent and authorization required for research involving human subjects, research involving genetic testing has additional elements of the consent form required per New York State's (NYS) Civil Rights Law, Section 79-l.

As defined in the law:

- *A genetic test is any laboratory test of human DNA, chromosomes, genes, or gene products to* ***diagnose*** *the presence of a genetic variation linked to a predisposition to a genetic disease or disability in the individual or the individual's offspring; such term shall also include DNA profile analysis.*
  "Genetic test" shall not be deemed to include any test of blood or other medically prescribed test in routine use that has been or may be hereafter found to be associated with a genetic variation, unless conducted purposely to identify such genetic variation.
- *A "genetic predisposition" shall mean the presence of a variation in the composition of the genes of an individual or an individual's family member which is scientifically or medically identifiable and which is determined to be associated with an increased statistical risk of being expressed as either a physical or mental disease or disability in the individual or having offspring with a genetically influenced disease, but which has not resulted in any symptoms of such disease or disorder.*

What is not a "genetic test" as per the NYS definition?

1. Most genomic and biomarker research because there is no clear link to the predisposition to a genetic disease or disability
2. Genetic testing on tumor tissue to study possible treatment responses
3. Whole genomic sequencing, unless they are specifically looking at a gene for predisposition (e.g., BRACA1)
4. Genetic testing on anonymous specimens, as long as the Reviewing IRB determines the research protocol assures the anonymity of the sources of the specimens.

Genetic Tests Performed for Research Purposes

When a genetic test, as defined by NYS law above, is performed on identifiable or coded specimens for research purposes, the subject must provide prior *written* informed consent. Note: Waivers of documentation of consent are not permissible when the research involves genetic testing.

The protocol and the consent form must address the following:

(1) Purpose of the test

(2) Indicate the disease/condition to be tested

(3) General description of the test, include the amount of specimen needed and how the specimen is collected

(4) Include that a positive test result indicates the subject or the subject's family may have or may be predisposed to the disease/condition and may wish to consider further independent testing, consult their physician, or obtain additional genetic counseling.

(5) Indicate the level of certainty of a positive test result, as a predictor of the disease/condition.

- If the level of certainty of the test result is unknown, this is not required.

(6) A statement that the subject may want to obtain professional genetic counseling before signing consent

(7) Indicate who will receive the results (the subject, study physician, or treating physician, or another category of persons or organizations). Genetic test results **cannot be disclosed** to anyone outside of the individuals/organizations named in the consent form. This includes disclosure to health insurance companies, health maintenance organizations, and individuals related to the subject. Any further disclosure requires further informed consent of the subject.

- There is no requirement to provide the genetic test results, as long as the consent form states the test is solely for research purposes and the results will not be provided to the subject or the subject's physician.
- Subjects have the right to decide not to receive test results that reveal genetic status. When genetic information is disclosed, subjects should be informed that they may want to consider further independent testing, to consult with this physician, or purse genetic counseling.

(8) Indicate that no other tests shall be performed on the specimen after the genetic testing

- It is generally expected that any remaining specimen will be destroyed at the end of testing or within 60 days of collection unless the protocol and consent expressly indicates a longer period.

(9) Any additional risks for genetic testing research.

- In addition to the physical risk of obtaining the specimen, include any potential financial, psychological and social risks of disclosure of the test results, as applicable.
- Include standard Genetic Information Nondiscrimination Act (GINA) language *(in the consent form only; see template language below)*.

(10) Any additional costs associated with the genetic test (e.g., laboratory, genetic counseling). It is generally expected that the study team will assume the cost of the lab, genetic counselling, etc., associated with a research study.

(11) Any intent to develop a commercial product from the specimens obtained in this study.

(12) Signature of the subject, or the subject's legally authorized representative *(consent only)*

Additional genetic testing may be performed without additional consent of the subject provided the testing is necessary and required to demonstrate the integrity of the specimen or to resolve the analysis of a test with a previously indeterminate result.

Genetic testing may be performed on specimens from deceased persons if informed consent is provided by the next-of-kin as specified above.

Future Genetic Testing

The NYS law permits specimens to be stored for future genetic testing provided the subject provides written informed consent to allow for future genetic testing and the original consent does not specify time limits or other factors that would restrict use of the specimen. When future research could include genetic testing, the following must be addressed in the protocol:

(1) Describe the policies and procedures to protect confidentiality;

   a. How will the specimen be stored?

      i. The specimen should be permanently stripped of identifying information (completely anonymous/de-identified) **or** coded with a plan to protect the identity of the subject. *The law requires that an IRB review and approved the storing procedures*.

   b. Who will have access?

   c. Will the specimens be shared with others, if so, how will they be identified when shared?

(2) Describe the process for tracking and destroying the specimens if consent is withdrawn by the subject

   a. If specimens have already been used, the remaining portions must be destroyed.

   b. If specimens are stored anonymously the protocol and the consent form should indicate this, and specify that if consent is withdrawn the specimens cannot be destroyed.

(3) Indicate family members of the subject will **never** be contacted for clinical, research, or other purposes without explicit consent from the subject who provided the specimen.

(4) Indicate no information derived from this future genetic testing will be released to any organization or person without the explicit written consent from the subject.

(5) Describe the possibility of contacting the subject in the future for any or all of the following purposes:

   a. Additional research

   b. General information about research findings; and

   c. Information about the test on their specimen that may benefit them or their family members in relation to their choices regarding preventive or clinical care;

The consent for future genetic testing must include:

(1) Statement that the specimen will be used for future genetic tests;

(2) How long the specimen will be stored (consistent with the retention period identified in the study protocol). If there is no time limit is specified, a statement that the tissue will be stored for as long as deemed useful for research purposes;

(3) Describe how confidentiality will be protected (see above).

(4) Indicate the right to withdraw consent for future use at any time and the name of the organization that should be contacted to withdraw consent.

- If specimens are stripped of identifying information, indicate they cannot be destroyed.

(5) Include the possibility to be contacted for future contact for any or all of the following purposes:

- Additional research
- General information about research findings; and
- Information about the test on their specimen that may benefit them or their family members in relation to their choices regarding preventive or clinical care;

(6) Explain the possible benefits and risks of consenting to future contact related to #5 above.

Required Consent Elements and Sample Language – Genetic Testing

*Elements are required under the New York State Civil Rights Law. The Reviewing IRB may not grant exceptions or exemptions from the NYS law.

Required Element	**Examples of Language to Address the Element in the Consent**
1. A **general description** of the test. *	"The genetic testing being done in this study requires a blood sample from you. The sample will be processed by the study team and sent to a lab where it will be tested."
2. A statement of the **purpose** of the individual test or tests that will be conducted. *	"The purpose of this test is to see if you may develop XXX disease in the future (or to see if you have inherited a gene that may increase the likelihood you could develop XXX in the future)."
3. A general **description of each specific disease** or condition tested for. * *Note: Focus first on the subject, informing him/her that we are testing his/her blood for the genetic disease/condition. Address the relative later, if applicable.*	"We are gathering genetic material or DNA to test for XXX, to learn more about who may be at risk for developing XXX and how severe their disability may be. [If applicable: We may also try and collect samples from related family members, to see how XXX is transmitted in families.]

Required Element	Examples of Language to Address the Element in the Consent
4. Describe the **procedures** for collecting and identifying specimens for the genetic test (specifically what biological specimen will be required and how much).	Explain how the sample will be collected (e.g., blood draw, cheek swab), how much will be collected, and how the sample will be identified for purposes of this research study and future use, if applicable. "You will have a small blood draw (about 1 teaspoon), which will be labeled and stored with a code instead of your name."
5. A statement that the subject may want to obtain **professional genetic counseling** before signing consent. *	"You may want genetic counseling before signing this consent." "If you do not understand what a genetic test is and wish to receive professional genetic counseling prior to signing this consent form, please let us know."
6. Indicate the **meaning** and the **level of certainty** of a positive test result for the specific disease/condition being tested, (i.e., an indication that the subject may be predisposed to or have the specific disease/condition tested.) * *Note: If genetic results will not be given to the individual or his/her physician, or the level of certainty of the test result is unknown, disregard this requirement.*	"If a mutation is found in your XXX gene, we believe this means you are at an increased risk (X% higher) of developing XXX compared to people in the general population who do not have this gene." "If there is a positive test result, this means that you may develop, or that you may have XXX disease/condition that we are testing for in this study. You may want to undergo further independent testing, consult with your doctor, or receive professional genetic counseling."

Required Element	Examples of Language to Address the Element in the Consent
7. Indicate to whom the **test results may be disclosed** (including the subject, study doctor, or category of persons or organizations). * *Note: Subjects should retain the right not to receive information about test results that reveal genetic status. Any disclosure of genetic information should be accompanied by appropriate counseling by trained genetic counselors.*	"If you wish, the results of these research tests will be reported back to you and made available to your study doctor. You will be provided the opportunity at the end of this form to indicate whether or not you would like to receive the results and/or share them with your study doctor." *Note: Unless return of testing results is necessary to conduct the study, the subject must indicate agreement (yes/no) to receive results themselves, as well as to disclose the results to any applicable entities noted; applicable optional checkboxes should be included on the signature page of the consent form.* **OR** (if results are not returned) "The meaning of these research testing results is not known, so we will not make these results available to you or your doctor."
8. Indicate whether genetic test results would be **disclosed to persons or organizations not named** in the consent form.	"If we want to share the results of your genetic tests with other people or groups not listed in this consent form, we will first ask your consent to share those results." **OR** "We may combine your results with those from other research subjects in a way that your information cannot be individually identified or linked to you personally. If we do this, we may share the combined results with other researchers."
9. A statement that **no tests** other than those authorized and the specimen will be destroyed at the end of the testing process (or not more than 60 days after the specimen was taken) unless subject expressly authorizes a longer period of retention. *	"We will do the tests only for this research. The sample will be destroyed when the testing for this study is completed." **OR** "The samples will be destroyed with XX years."

Required Element	Examples of Language to Address the Element in the Consent
10. Description of the **additional risks** for genetic testing research. In addition to the physical risk of obtaining the specimen, include any potential financial, psychological and social risks of disclosure of the test results, as applicable. *Note: A statement regarding GINA is required for inclusion in the consent*.	"Additional risks when conducting genetic testing may include the effect of knowing you are a carrier of a gene for a particular disease that might affect your life course, your ability to obtain employment or insurance or have an effect on your family relationships." "Some genetic information can help predict future health problems of you and your family and this information might be of interest to your employers or insurers. A federal law, called the Genetic Information Nondiscrimination Act (GINA), generally makes it illegal for health insurance companies, group health plans and most employers to discriminate against you based on your genetic information. However, it does not protect you against discrimination by companies that sell life insurance, disability insurance or long-term care insurance."
11. Describe any **additional costs** associated with the genetic research.	"If you obtain genetic counseling outside of what is provided in the study, you or your insurance will be responsible for the costs of that counseling." "You may decide to pay for the cost of the genetic test out of pocket rather than filing an insurance claim."
12. A statement regarding intent to develop a **commercial product** from the specimens obtained in this study.	"If there is a commercial product developed as a result of the research testing done in this study, you [will/will not] be paid for the use of your sample.
13. Include **signature of the subject** for the genetic test indicated, or the signature of the legally authorized representative for subjects with decisional impairment to consent for him/herself; date of signature. *	Included on consent signature page.

Additional Required Consent Elements and Sample Language – Future Genetic Testing

The elements described below should be included in the consent form if specimens will be collected and stored for purposes of ***future*** genetic testing.

*Elements are required under the New York State Civil Rights Law. The RSRB may not grant exceptions or exemptions from the NYS law.

Required Element	Examples of Language to Address the Element in the Consent
1. Statement that specimen(s) will be stored for future genetic tests, for which specific consent has not been obtained. * If the type of future research to be conducted is known, this should be included. Provide a description of those activities and provision for subject to opt in to storage for future research. *Note: This future genetic research requires a research protocol be submitted and approved by an IRB, where the requirement for consent will be determined by the IRB.*	"If you agree to let the study team keep your sample for future genetic research, more tests may be conducted on your sample." Checkboxes at the signature page ("I do/do not agree that my sample(s) can be stored for future genetic testing as described above. I understand that all future research will be done with the approval of an institutional review board. Due to the investigational nature of the research to be conducted with my sample, I will not be informed of any individual test results."
2. If specimens will be stored for future testing, indicate who will have access, where the specimens will be retained, and how long they will be retained. If there is no time specified time limit, include a statement that the specimen will be stored for as long as deemed useful for research purposes.	"The blood sample [without your name] will be sent to a repository in XXX for future research." "Your DNA and other health information will be stored at XXX for future research." "Your coded sample may be kept indefinitely, and may be made available to other scientists studying disease XXX. Your sample will be retained for as long as we are able to use this for research testing."

Required Element	Examples of Language to Address the Element in the Consent
3. Describe how confidentiality will be protected, including how specimens will be identified: • The specimens have been permanently stripped of identifying information, **OR** • A coding system has been established to protect the identity of the individual who provided the specimens, and an IRB has reviewed and approved the procedures for the coding system.	"To protect your privacy, we will remove your name and any other identifying information that could directly identify you from your sample, and all information that identifies you will be destroyed, so there is no existing link between your sample and you. However, because your genetic information is unique to you, we cannot guarantee that your identity will never become known." "To protect your privacy, we have several safety measures in place. We will remove your name and any other identifying information that could directly identify you from your sample and replace it with a subject number. All other study information will be stored in a secure manner and only study personnel will have access to this information. However, because your genetic information is unique to you we cannot guarantee that your identity will never become known."
4. A statement regarding **right to withdraw** the subject's specimen. *	If you decide that you do not want us to keep your sample, let us know and we will destroy it. However, if identifiers were removed from your sample before it was provided to other investigators, it may not be possible for us to stop future research with your sample. **OR** Your sample may have already been distributed to other researchers before you asked us to destroy it, so we may not be able to retrieve it and stop future research.

Required Element	Examples of Language to Address the Element in the Consent
5. Include the possibility to be contacted in the future for any or all of the following reasons: • Additional research • General information about research findings; and • Information about the test on their specimen that may benefit them or their family members in relation to their choices regarding preventive or clinical care.	"You may be contacted in the future for several different reasons. If we would like to collect additional information from you, we want to perform additional testing that is not described in this consent form, or if we want to ask you to take part in a continuation of this study or a new study. When we contact you, we will provide you with additional information and ask you to sign and date a new consent form."
6. Explain the possible benefits and risks of consenting to future contact.	"The benefits of this future contact include the possibility to participate in additional research, to receive additional information that may be important in your and your family's health care." "The risks associated with this future contact include some loss of privacy. However, your records will be handled as confidentially as possible. Access will be limited to the study team. No information will be used for research without additional permission. Your contact information will not be shared with anyone outside of the study team."