

CLIA-Certification for Clinical Genetic Testing and What it Means to You as a Participant in the FDC Research Project

Why does the FDC Project perform only research genetic testing?

In 1988, the **Clinical Laboratories Improvement Amendment (CLIA)** was established to regulate all clinical genetic testing performed in the United States. When a lab becomes CLIA-certified, it means that the lab has met a set of federally regulated standards for providing clinical testing results. Although all genetics labs providing clinical genetic testing in the United States require CLIA-certification, most genetics research is conducted in labs that are not certified. These research labs, while unable to release specific test results to research participants, are capable of performing accurate, high quality genetic testing.

In 2005, the FDC Project research lab became CLIA-certified in its Portland, OR location (see FDC Beat Volume VI, Issue I; December, 2005). This certification meant that if we discovered a gene that we thought caused FDC in your family, we then had the option to provide you and your relatives with clinical genetic testing and specific test results. However, **with the move to the University of Miami, in Miami, FL, our lab is not currently certified to provide this service.**

Although we cannot presently disclose specific genetic testing results, you will be notified if a genetic change is found that is thought to explain the heart problems in your family. At this time, if you are interested in having clinical genetic testing done to obtain specific results, we can refer you to a CLIA-certified clinical lab which will confirm our findings and provide you with specific results for a fee, which may or may not be covered by your insurance.

Even if you have previously submitted a blood sample to our study, such testing would require another sample to be taken. Because our funding is solely supportive of research testing, we would be unable to cover any charges for additional clinical confirmation of our research results. Nevertheless, we will work closely with the clinical testing lab to provide them with our findings, which can help to reduce the overall cost of your clinical testing.

Making the Decision to be Tested

The decision to pursue clinical genetic testing may not be a simple one. Before having testing done, it is important to think about the benefits and limitations of the genetic test, the meaning of potentially positive or negative results, the potential impact of results on guiding treatment options or surveillance of your symptoms, implications of results for your family members, and potential emotional effects of positive, negative, or uncertain findings. Because feelings surrounding genetic test results are both varied and complex, we strongly encourage anyone considering genetic testing to discuss these issues with a genetic counselor, or a physician who is knowledgeable in genetic testing, before choosing to undergo testing. We are happy to assist in locating a genetic counselor near to you. Listings of genetic counselors by name, location, and specialization are also available at the National Society of Genetic Counselor's website, <http://www.nsgc.org/>.

Why are Genetic Testing Results Not Available For All Participating Families?

Although our goal is to identify a genetic cause of FDC in all of our participating families, we cannot guarantee that every family will obtain individual test results. Greater than 20 genes are currently suspected to cause FDC – a number that is likely to rise as we discover more about the causes of cardiomyopathy. Furthermore, the ways in which mutations in these genes manifest are equally diverse, with large differences in age of onset, progression, and severity seen, even among members of the same family. Even more complex is the fact that some individuals with a mutation known to cause FDC never show any symptoms. All of these factors can make analysis of individuals and families more difficult and hinder our ability to pinpoint FDC-causing gene mutations.

As we reviewed in Volume V, Issue II (August, 2004) of this newsletter, the utility of one of the two main methods we use for finding FDC-causing genetic changes depends on both the size of the family and the number of living relatives who have IDC. This method, called **linkage analysis**, is very time and effort intensive, but can be a potentially powerful tool for discovering new genetic causes of FDC in larger families that have many members with cardiomyopathy.

Continued on Page 3

Alongside linkage analysis, **gene sequencing** can be used in both larger and smaller participating families to look for changes in known FDC genes that may interfere with proper heart function. Unfortunately, even if all of the known FDC genes are sequenced in a family, a genetic cause still may not be found since we do not yet know all of the genetic causes of FDC. However, as new FDC genes are discovered, sequencing of these genes can lead to discoveries in families where no previous genetic causes for FDC were previously known.

The FDC Project Identifies Genetic Changes in Six Genes

The FDC Research Project recently sequenced DNA from 313 of our participants and identified genetic changes in six genes known to be associated with dilated cardiomyopathy (MYH7, TNNT2, SCN5A, CSRP3, LBD3, and TCAP). Although changes in these six genes are believed to account for only a small fraction of the genetic cause of FDC or IDC, this data will be of enormous help in establishing the frequencies at which these genetic changes can be found among individuals with dilated cardiomyopathy. Determining these frequencies is important since they form the basis for determining the most common genetic causes of FDC. Nevertheless, it is important for us to know whether the identified genetic changes are disease-causing, or simply benign changes not associated with disease. To do that **we need your help**.

How Can I Help? We have already begun contacting families regarding these findings. If you have received a message from us, but have not yet replied, please contact us at our toll-free number so that we can discuss your family's participation in more detail. As mentioned previously, the best way to help us move our research forward is to encourage as many family members as possible to enroll in our study. The more relatives that participate, the more information we have available to learn about how FDC manifests in people with or without specific genetic changes. Even participation of "married-in" spouses can be helpful as genetic information from spouses with no known family history of heart disease can help us to determine whether a particular genetic change is likely to cause disease.

As the FDC project continues to grow, it becomes more important that we keep our records up-to-date so that we can remain in contact with you as progress is made in our research. If your contact information has changed and/or you have an email address at which we can contact you, please call or email us so we remain able to stay in touch.

Our Research Continues

We have recently received approval from an NHLBI core facility to begin sequencing another set of five genes (MYH6, TNNC1, MYBPC3, TNN13, and TPM1) using DNA from the same set of 313 participants.

The FDC Project Continues to Grow

After joining the FDC Project in June 2007 as one of the group's two Genetic Counselors, Jason Cowan, MS, has transferred to the FDC Project laboratory group (see "A Brief Message from Jason Cowan"). Jill Sigfried, MS, CGC, will join us in late July, 2008.

The FDC Project also welcomes Nadine Norton, PHD, who will be joining the group as a laboratory-based PHD researcher in mid-summer 2008. With more than ten years of genetic research experience, Nadine will play a key role in improving our current gene sequencing methods to utilize high-throughput, next-generation technologies.

Nadine and Jill will both be tremendous assets to the FDC project as we continue to search for FDC genes.

A Brief Message From Jason Cowan

June 2008 saw a change for me as I transitioned from my former role as FDC study Genetic Counselor and Research Coordinator to Senior Research Associate in the FDC Project laboratory group. During the past year, I have been privileged to have had the opportunity to get to know a great many of you. I wanted to use this opportunity to thank you all for your willingness to open your families to me and the FDC project, whether during enrolment for the study or through the regular followup that makes this research such a success. I will truly miss the contact we have had during my time as Research Coordinator, but welcome the opportunities that my new position will provide for both my own professional development and for advancement of our knowledge of FDC.

Jason Cowan, MS

FDC BULLETIN BOARD

**CALL US
AT OUR
TOLL FREE
NUMBER:
877-800-3430**

MEDICAL FOLLOW-UP

If anyone in your family is newly diagnosed with heart problems, please let us know. Also, if you or anyone in your family has had heart tests performed, either for follow-up or for the first time, regardless of results, we would be interested in receiving copies. Please contact us and we will send you a medical record release form. If we have sent you medical record release form(s), please send us the completed form(s) as soon as possible.

**EMAIL US
THROUGH THE
"Contact Us"
PAGE ON OUR
WEBSITE:
WWW.FDC.TO**

ADD ME TO THE MAILING LIST

If you are not currently a participant in our study, but would like to receive our newsletter, please contact us with your name and address, and we will be pleased to add you to our mailing list.

CONTACT INFORMATION UPDATES

If you have moved and/or have an email address we can contact you at, please call or email us so we can get in touch with you for any follow-up and continue to send you our newsletter.

FDC BEAT Newsletter

FDC BEAT is a publication of the Familial Dilated Cardiomyopathy Project in the Cardiovascular Division at the University of Miami, Miller School of Medicine in Miami, FL. The newsletter is not copyrighted and readers are welcome to photocopy its content to share with family members and health care professionals. We welcome your feedback.

**The FDC Project Group
Cardiovascular Division
P.O. Box 019132, C-205
Miami, FL, 33101**

303706

ADDRESS SERVICE REQUESTED

TO: