



FA FAMILY NEWSLETTER

#41

A Semi-annual Publication of the Fanconi Anemia Research Fund, Inc.

Spring 2007



Researchers discuss poster presentations at Symposium

The 18th Annual Fanconi Anemia Scientific Symposium

A record two hundred twenty-six researchers convened in Bethesda, MD, from October 19 – 22, 2006 for the 18th Annual Fanconi Anemia Scientific Symposium. Participants included scientists and clinicians from 15 countries and from 64 universities and institutes, including 29 participants from the nearby NIH institutes.

This year, for the first time, the Symposium included a session entitled *Fanconi Anemia 101: A Sophisticated Introduction to the Science and Medicine of Fanconi Anemia*, brilliantly presented by Akiko Shimamura, MD, PhD, Children’s Hospital, Boston, and Raymond Monnat, Jr., MD, University of Washington and

a member of the Fund’s Scientific Advisory Board. While this session was designed for newcomers, it was attended by many experienced FA researchers and found to be invaluable by all.

Maura Gillison, MD, Johns Hopkins Kimmel Cancer Center, delivered the keynote lecture, *The Challenge of Squamous Cell Carcinoma in Fanconi Anemia*. Forty-five researchers made oral presentations on subjects including gene discovery and regulation; carcinogenesis; hematopoiesis, stem cell transplantation, and therapeutics; functions of FA proteins; and model organisms and cell-free systems. Sixty-eight

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Keynote Speaker Addresses Cancer in FA Patients

Maura Gillison, MD, PhD, Johns Hopkins Kimmel Cancer Center, began our 18th Annual Scientific Symposium with a keynote address on *The Challenge of Squamous Cell Carcinoma in Fanconi Anemia*. She noted a “remarkable increase” in head and neck cancers (as well as esophageal, cervical, and vulvar squamous cell carcinomas) in the FA population compared to the general population.

Smoking and drinking, the primary causes of head and neck cancer in the general population, were causal factors in only a small minority of FA patients. Chromosomal

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Techniques for Early Detection of Head and Neck Cancer

Petra Wilder-Smith, DDS, PhD, University of California at Irvine, discussed early cancer detection techniques that are under investigation in her laboratory. The goal of her research is to develop a non-invasive approach for detecting cancer precursors and oral cancer at the earliest stage possible, and to enable regular screening of high-risk patients.

Oral cancer has one of the worst survival rates of all cancers because early detection is difficult. Current diagnostic techniques require surgical biopsy and often cannot identify early cancerous changes. If detected early, however, oral cancer has a better survival rate than most cancers. Clinicians desperately need new tools for early detection. Several approaches are currently under investigation.

Wilder-Smith discussed three new methods that show promise:

- Optical coherence tomography (OCT) combined with optical Doppler tomography (ODT) can image below the surface of the oral tissues, and can show structures at a level of detail resembling that obtained under a microscope.
- Under certain types of laser light, precancerous and cancerous tissues fluoresce (glow) differently than healthy tissues. Pre-treatment of mouth tissues with chemical agents called photosensitizers can enhance this effect. Very early precancerous changes invisible to the naked eye are detected using fluorescence techniques.
- Some types of laser microscope can be connected to a probe that allows direct imaging of surface and subsurface tissues. This technique permits very early and accurate diagnosis of pathologies in tissues such as the lining of the mouth.

These new techniques can be combined to achieve effective and rapid screening, diagnosis, monitoring, and delineation of oral cancer. Wilder-Smith will explore the usefulness of these tools for FA patients. ♦



Petra Wilder-Smith, DDS, PhD



Johan de Winter, PhD

New Fanconi Anemia Gene Discovered

Two research teams, one from the Vrije Universiteit (Free University) Medical Center, Amsterdam, The Netherlands, led by Johan de Winter, PhD, and another from the Institute of Cancer Research, Sutton, United Kingdom, led by Nazneen Rahman, MD, PhD, announced the discovery of the 12th Fanconi anemia gene, *PALB2/FANCN*. * Like *BRCA2/FANCD1*, *PALB2/N* functions downstream of the *FANCD2* pathway, and disease mutations in this gene cause a very severe phenotype.

Rahman described seven FA patients with mutations in this rare complementation group. All seven patients had developed cancer early in childhood, and three had more

than one cancer. Cancers included Wilms tumor (cancer of the kidney); acute myelogenous leukemia; neuroblastoma (a cancer of the nervous system) and medulloblastoma (brain tumor). Six patients died before the age of four.

Almost all cases of FA with solid tumors in early childhood that Rahman and colleagues have studied are caused by mutations in either the *BRCA2* or *PALB2* genes.

In her recently published paper in *Nature Genetics* (February 2007), Rahman writes that carriers of *PALB2* mutations have a two-fold increased risk of breast cancer.

*The designation *PALB2* means “partner and localizer of *BRCA2*.” ♦

Genetic Patterns of FA Squamous Cell Carcinomas and a Non-Invasive Screening Technique

Ruud Brakenhoff, PhD, Vrije Universiteit (Free University) Medical Center, Amsterdam, presented data on his analysis of 15 tumors, taken from 14 FA patients ages 13-44. Ten malignancies were from the head and neck; two were from the esophagus; and three were from the anogenital area. Brakenhoff analyzed the patterns of genetic changes and presence of the human papilloma virus (HPV) and made several important observations.

The genetic patterns found in FA tumors are similar to those found in tumors from the non-FA population. Of nine tumors analyzed, seven showed a mutation in the p53 gene.

Only two of the 15 tumors were positive for HPV. This finding suggests that HPV plays a less prominent role in FA cancers than was suggested by an earlier study. We don't yet know what might account for this difference.

Head and neck cancer is preceded

by precursor lesions. Only 20% of these lesions are visible to the naked eye; 80% are identified by biopsy and careful examination of tissues for genetic alterations.

Taking biopsies of suspicious tissues is painful for the patient and not ideal for identifying and monitoring precursor lesions. Brakenhoff has developed a new, non-invasive way to screen for these lesions. Using a small brush, he removes superficial cells from different places in the mouth. These are then studied for suspicious genetic re-arrangements. The test is validated by analysis of samples from non-FA patients with leukoplakia and healthy non-cancer controls. When genetic changes were found in leukoplakia biopsies, they were also found in the brushed samples from these same patients. In the healthy non-cancer controls, no changes were found.

Brakenhoff has obtained samples from 75 French and German FA patients. To date, samples taken from



Ruud Brakenhoff, PhD

22 FA patients have been analyzed; 9 FA patients had genetic alterations in one or more of the samples. This method might provide a non-invasive, painless method to screen for genetic changes that indicate a need for increased surveillance or treatment, even when visible changes have not yet developed. ♦

FA Patients with Mutations in *BRCA2/FANCD1* Have Severe Phenotype; Carriers Also At Risk

Blanche Alter, MD, MPH, National Cancer Institute, presented data on 27 FA patients defective in *BRCA2/FANCD1*. This group is unique in the severity of the physical phenotype, and in very early onset and high rates of leukemia and specific solid tumors.

Ten patients had acute myeloid leukemia (AML), and four developed acute lymphocytic leukemia (one of these had AML as well). Twelve patients had brain tumors, seven developed a Wilms tumor (a cancer found in the kidney), and one presented with neuroblastoma. Only two patients, ages 2 and 30, did not

have cancer. The risk of malignancy was 66 times higher than in other FA patients. The cumulative probability of any cancer was 97% by age 5.

Certain mutations were associated with cancer in this population. Patients with an IVS7 mutation were at exceedingly high risk for leukemia; those with an 886delGT or 6174delT were at high risk for a brain tumor.

Carriers of a *BRCA2* mutation were at risk for breast cancer. Of 21 families studied, 11 had a family member with breast cancer. In all, 28 relatives in these families had breast cancer. Given the increased risk



Blanche Alter, MD, MPH

for carriers of a *BRCA2* mutation, Alter advised that these families seek genetic counseling and appropriate medical surveillance. ♦

Questions and Answers about the Human Papillomavirus

by Lynn Frohnmayer, with a little help from Google

What is the Human Papillomavirus (HPV)?

HPV is an extremely contagious and common virus. It is called “papillomavirus” because papilloma means “wart,” and this virus can cause warts. There are around 100 different types of HPV. Sixty of these are benign or can cause warts on non-genital skin, primarily of the hands and feet.

What is the relationship between HPV and sexual contact?

Thirty to forty types of HPV are spread primarily through skin-to-skin sexual contact, and are called genital HPVs. Genital HPV is extremely common in the sexually active population. It is spread through vaginal, anal and oral sex or any skin-to-skin genital contact. Every year, approximately 6.2 million Americans are newly infected with genital HPV, and at any one time, 20 million Americans have genital HPV. Approximately 75%-80% of those who have EVER been sexually active during their lifetimes will have had HPV at some point.

Why should we be concerned about HPV?

Most of the time, HPV goes away on its own, eliminated by our immune systems. Most people are unaware they were ever infected with HPV. However, the virus can also stay in the body and cause worrisome problems. Genital HPVs are divided into two categories: high-risk and low-risk. High-risk HPVs can cause cancer; low-risk can cause genital warts.

HPV and Cancer

Twelve to fifteen types of HPV cause or are associated with cancer. Nearly 100% of cervical cancer is caused by HPV. Two types in particular, HPV 16 and 18, cause 70% of cervical cancer. In the United States, almost 10,000 women are diagnosed with cervical cancer annually, and approximately 4,000 die from this disease. Cervical cancer grows slowly and is preceded by precancerous cells. Precancerous cells usually go away on their own. These cells can be monitored through Pap smears and removed if they persist or evolve.

Risk is not limited to cervical cancer. HPV is strongly implicated in anal cancer and is also found in cases of vaginal and vulvar cancer. Approximately 20-25% of cases of head and neck cancer in the general population test positive for HPV.

HPV and Genital Warts

Over 500,000 new cases of anogenital warts are diagnosed yearly in the US. Ninety percent of these are caused by HPV types 6 or 11. Warts often appear in clusters but can appear as single warts. They may cause itching, burning, or general discomfort. They can be removed by freezing or burning, using an acid applied by a physician or by an expensive self-administered cream. Eliminating the warts can take a long time, and they can return as long as the HPV virus that caused the warts is still present.

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FA Complementation Analysis Available

Cincinnati Children’s Hospital Medical Center (CCHMC) has received an NIH award to supplement the costs of testing for FA complementation groups. Complementation analysis is now available to clinicians and researchers for \$150 per sample. An additional charge of \$180 is added to establish cell lines from peripheral blood or skin biopsies, if necessary. Cincinnati also provides instructions for participation in the International Fanconi Anemia Registry (IFAR) of The Rockefeller University, which facilitates subsequent mutation identification.

Complementation group analysis is currently available for eight complementation groups, which represent greater than 90% of the FA patients in the US. Complementation analysis, including the establishment of cell lines, may require up to six months. Established cell lines will be deposited in the FA Cell Repository at CCHMC, and will be provided to researchers with protocols approved by their Institutional Review Board.

Contact Dr. David A Williams (david.williams@cchmc.org, 513-636-0364) or Lilith Reeves (lilith.reeves@cchmc.org, 513-636-3468) for more information or to schedule testing. ♦

Use of Logo

A reminder to our FA families: please use our logo or letterhead only after you have consulted the staff of the FA Research Fund and received their approval. This step is necessary to be sure our messages are accurate and consistent and helps to avoid legal complications. We are happy to collaborate on fundraisers and mailings.

Centers Plan Studies of HPV Vaccine in FA Patients

The National Cancer Institute (NCI) is planning a five-site study of the safety and effectiveness of the HPV vaccine in FA patients. Participating centers are the University of Minnesota Medical Center; Oregon Health & Science University; University of California in Los Angeles; and Stanford University. NCI plans to begin this study in April 2007. FA patients age nine and above, **male and female**, can enroll. Transplanted patients must wait at least one year post-transplant to be included in this study. **Patients who participate in this study, receive their three shots at one of the above centers, and agree to participate in a series of clinical visits will receive the vaccine free of charge.** If patients prefer

not to wait for vaccine through the study, they can receive the vaccine from their local physicians (vaccine will NOT be free) and still enroll within four weeks of completing vaccination to be monitored for immune response.

Cincinnati Children's Hospital Medical Center will also study the safety and effectiveness of the HPV vaccine. This will be linked to a comprehensive evaluation of the immune status of FA patients. The study is ready for submission to regulatory and review bodies. Cincinnati may or may not receive the vaccine at no charge for those participating in the study, so patients may be billed. Patients who do not wish to be part of this study can still obtain the

vaccine if they are included in the FDA-approved population (females ages 9–26). The patient's family or insurance company will be billed.

Patients not wishing to participate in a clinical study can obtain the HPV vaccine through their local physician or health center. Three inoculations are required, at a cost of approximately \$125- \$150 per injection. Since this vaccine has only been approved for females ages 9-26, check with your physician about vaccinating anyone outside of these parameters. For all patients, confer with your insurance company about possible coverage.

A federal program called Vaccines for Children will defray much of

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Keynote Speaker Addresses Cancer in FA Patients

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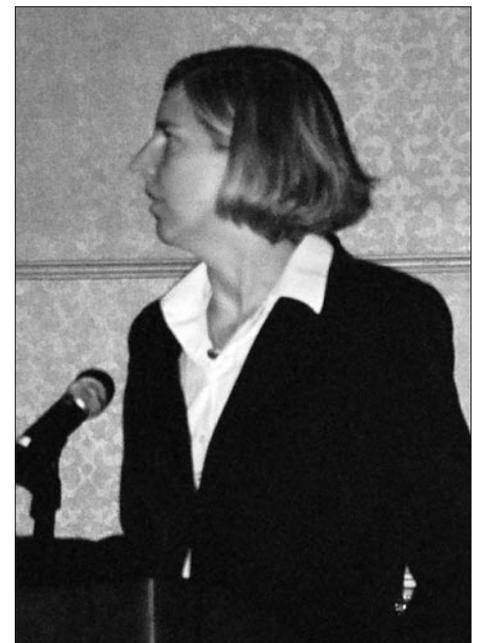
instability, which defines FA, is a strong risk factor. Other factors that increase risk of head and neck cancer in the general population may also apply to the FA patient, including poor dental hygiene and diets low in fruits and vegetables. The risk of head and neck cancer among patients with FA increases with age. The risk is further increased by bone marrow transplant because of exposure to chemotherapy, radiation therapy, and immunosuppressive drugs as well as complications such as acute and chronic graft-versus-host disease.

Gillison discussed the possible role of the human papillomavirus (HPV) in FA cancers. In one study of 33 FA patients with cancer, 25 patients or 83% were positive for HPV. Specific sites of these cancers were head and neck (19), vulva (5) and anus (1). Another study of 15 FA

malignancies found HPV in only two cancers. These different outcomes are currently the focus of investigation. Gillison noted that HPV is involved in almost 100% of cases of cervical cancer. The HPV vaccine, which prevents the two types of HPV (16 and 18) that cause 70% of cervical cancers, is remarkably effective in preventing this complication.

Gillison recommends FA patients obtain regular screening (at least annually) for head and neck cancer by a board-certified head and neck surgeon (not a dentist). Based on literature reports of earliest presentation of head and neck cancer in FA patients, screening should begin at age 10-12 or starting one year after bone marrow transplant, whichever occurs first. Patients with FA can be long-term survivors of their cancer if it is caught at an early stage that can be treated by surgical therapy alone. In addition, FA patients should consider immunization against the HPV virus, which has been shown

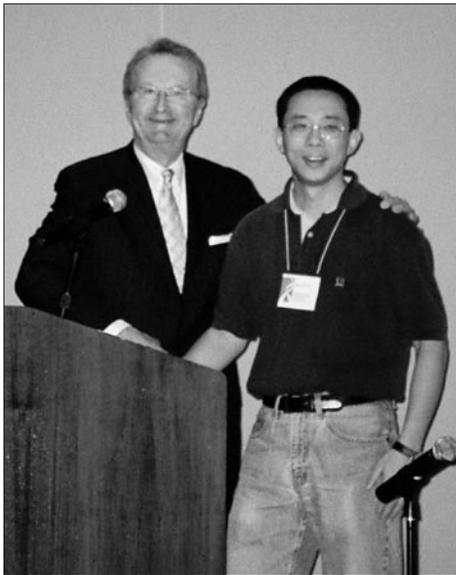
to be safe and effective in the general population for cervical cancer prevention. The ability of the vaccine to prevent oral HPV infection, however, is unknown. ♦



Maura Gillison, MD, PhD

Thymic Shielding Reduces Infection after Alternate Donor Transplants

Researchers at the University of Minnesota continue to modify their transplant protocol in an effort to improve outcomes for FA patients receiving alternate donor bone marrow transplants. At the present time, toxicity related to the conditioning regimen and infections are the major obstacles to successful transplant in



Dr. Bing Xia receives award for Best Basic Science Poster Abstract.

The 18th Annual Fanconi Anemia Scientific Symposium

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researchers presented posters on FA research. At the Symposium Dinner, awards for the poster presentations were made by Dave Frohnmayer, co-founder of the Fund, to the following recipients: Sheila Mohan, PhD, Apollo Hospital, Chennai, India for Best Clinical Abstract; Bing Xia, PhD, Dana-Farber Cancer Institute, Boston for Best Basic Science Abstract; and Mohammed-Reza Saadat-zadeh, PhD, for Best Translational Abstract. ♦

this population. Researchers examined whether shielding the thymus gland from radiation would hasten immune recovery, decrease infections and improve outcomes.

Margaret MacMillan, MD, presented results of an April 2004–June 2006 trial of 16 FA patients who received thymic shielding in addition to the regular alternate donor protocol. Researchers compared outcomes to 43 previously transplanted FA patients who had received the same protocol without thymic shielding. Of the 16 patients in the new trial, 15 engrafted (one did not survive long enough to be evaluated). Patients who received thymic shielding had a total of 9 infections: 4 bacterial, 3 viral and 2 fungal. The 43 patients without thymic shielding experienced a total of 126 infections: 68 bacterial, 37 viral and 21 fungal. Infections were significantly lower in the shielded population. In general,



Margaret MacMillan, MD

those receiving thymic shielding experienced a faster rate of recovery of infection-fighting blood cells. It also appears that overall survival improved in the cohort of patients receiving thymic shielding (79%), although the number of patients is small and the time post-transplant short. ♦

Minnesota Reduces Radiation Dose in Alternate Donor Transplants

University of Minnesota transplant physicians are testing new protocols in an effort to decrease toxicity and reduce the risk of opportunistic infections in patients undergoing bone marrow transplantation. Margaret MacMillan, MD, has designed a new radiation dose de-escalation protocol for patients undergoing alternate donor transplants. The protocol includes thymic shielding, but decreases radiation from 450 rads to 300 rads.

To date, eight patients have enrolled in this trial. All eight have engrafted and are alive and well.

Once 10 patients have been enrolled and have engrafted, the radiation dose will be decreased to 150 rads. If 10 patients do well at this dose, the next group of patients will receive no radiation. It is anticipated that this approach will continue to speed immune reconstitution and decrease the risk for opportunistic infections. In addition, eliminating radiation may reduce the risk of later malignancies. Other future trials to improve survival include the use of multipotent adult stem cells at the time of transplant. ♦

[We regret to report that one of the eight patients in the reduced radiation regimen has subsequently passed away. Eds]

Cancer Prevention in Fanconi Anemia

Bone marrow failure and malignancies both greatly shorten the life span of FA patients. Bone marrow transplantation is currently the only curative therapy for the bone marrow problems that affect FA patients, but transplantation still leaves patients at risk for cancer. Markus Grompe, MD, Oregon Health & Science University and his colleagues are using mouse models of FA to test various therapeutic interventions that may reduce malignancies or delay the onset of these tumors.

Using a strain of FA mice that usually develop epithelial tumors at about one year of age, Grompe tested whether tempol, an oxygen radical scavenger, might delay tumor formation. Twenty FA mice were treated with tempol; twenty FA mice received no treatment. Non-FA mice were used as controls.

The difference between the treated and untreated FA mice was very significant. Both groups developed the same kinds of malignant tumors, but mice treated with tempol lived 30% longer than untreated mice (414 days compared to 332 days, respectively). By the time the first tempol-treated mice developed an epithelial cancer, 60% of the untreated mice had already died. A noticeable side effect was weight loss of 15–20% in the mice treated with tempol regardless of whether they had FA or not. Additional testing, however, indicates that tempol does not harm FA hematopoietic stem cells.

Grompe is testing additional compounds to identify the most promising candidates for clinical trials. ♦



Markus Grompe, MD

Cigarette Smoke Concentrate Toxic to Cells

Laura Hays, PhD, Oregon Health & Science University Cancer Institute, studied the effect of cigarette smoke condensate (CSC) on human bronchial epithelial cells and on both normal and FA mouse epithelial cells to learn how CSC affects the FA pathway. Her study revealed that CSC is extremely toxic and that FA cells are more sensitive to cigarette smoke than normal cells. In fact, CSC caused 25% more death in FA cells.

CSC also induced a high number of chromosomal breaks in FA cells, and suppressed the expression of the Fanconi anemia pathway in normal cells. FA patients are at high risk for cancer of the head and neck. In light of these results, Hays concluded that cigarette smoke, **including second-hand smoke**, would create an extraordinary problem for FA patients. She strongly recommended that FA patients **should not be exposed to first or second-hand cigarette smoke.** ♦



Laura Hays, PhD

Centers Plan Studies of HPV Vaccine in FA Patients

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the cost of this vaccine for eligible patients. Patients must meet FDA guidelines and be 18 or younger, Medicaid eligible or uninsured (or have insurance which does not cover this vaccine), or qualify as American Indian or Alaskan Native. Call your local health department for additional information on eligibility requirements.

For contact information concerning the above study centers, please contact Jana Black, Family Support Coordinator, at jana@fanconi.org or at 541-687-4658. ♦



Dave Frohnmayer welcomes participants to the Small Molecule Meeting

Small Molecule Testing Workshop

At our 18th Annual Scientific Symposium in Bethesda, Maryland, Markus Grompe, MD, Oregon Health & Science University, reinforced the belief of a number of experts that the FA research community should begin testing small molecule compounds in FA animal models. These scientists believe there is a chance that an already known compound might correct or delay onset of serious problems. For example, Grompe has shown that the antioxidant compound, tempol, delays the onset of tumors in FA mice. Experts have suggested first testing drug compounds in zebrafish or frogs. Compounds found to be potentially therapeutic should then be tested in mouse models, with human FA trials to follow.

Fifteen scientists convened on February 12 in Portland, Oregon, to brainstorm and share expertise pertinent to testing of small molecule compounds. Scientists represented FA research, pharmaceutical companies, laboratories developing and testing small animal models of human diseases, and the National Institutes

of Health. Participants noted that three available FA models—zebrafish, frogs, and mice—can all show the FA phenotype. They agreed to collaborate on an effort to test if existing FDA-approved compounds can improve the FA phenotype in these animal models.

Significant time will be required to understand the function of all the

FA proteins and the various pathways that interact with FA genes. In the meantime, living FA patients need better therapies immediately. These scientists suggest that small molecule studies may yield positive results before the molecular basis of FA is fully understood. We are heartened by their willingness to test this hypothesis. ♦

Mark Your Calendar

**Regional Meeting:
FA Comprehensive Care Center**

**The University of Minnesota
Medical Center & Campus**

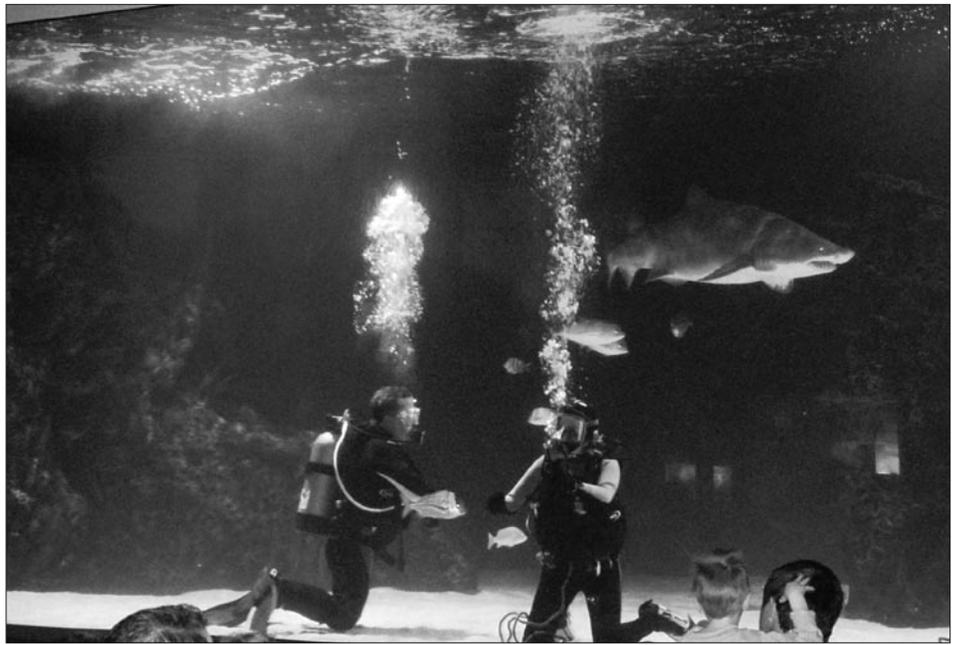
Saturday, May 19, 2007

Please join us, regardless of whether you live in this particular geographic region. The meeting is open to all FA parents and adult FA patients over age 15. Scholarships are available. To register, contact Jana Black at 1-888-FANCONI or jana@fanconi.org.

FA Regional Meeting in Cincinnati

Ten FA families from as far away as Arizona attended the FA Regional Meeting at Cincinnati Children's Hospital Medical Center (CCHMC) on Saturday, February 24, and Sunday, February 25.

Families were treated to presentations from the physicians, researchers, and staff of the FA Comprehensive Care Center. David Williams, MD, presented on three topics: the biology of Fanconi anemia; stem cell collection and gene therapy; and complementation group testing and mutation identification. Susan Rose, MD, discussed endocrine issues, including the progress of her clinical trial on thyroid function in FA patients. Stella Davies, MBBS, PhD, and Richard Harris, MD, spoke on blood and marrow transplants for FA, and Dr. Davies presented as well on her clinical trial on the use of Etanercept for the treatment of bone marrow failure. Frank Smith, MD, discussed the use of low dose androgens, and Thomas Kiefhaber, MD, presented information on surgery for thumb and radial abnormalities in



Families enjoyed watching divers with sharks at the Newport Aquarium.

the hands and arms of FA patients. Arleen Auerbach, PhD, from The Rockefeller University, New York, presented information on prenatal genetic testing, pre-implantation genetic diagnosis, and *in vitro* fertilization. Robin Mueller, RN, BSN, and Andrea Houchen, MSW, LCW,

discussed the support services offered by Cincinnati Children's to FA patients and their families.

The attendees were heartened by the hospital's emphasis on research into Fanconi anemia. They had the opportunity to meet and talk with FA researchers Qishen Pang, PhD, Ruhikanta Meetei, PhD, Susanne Wells, PhD, and Paul Andreassen, PhD.

On Saturday, the hospital sponsored an evening at the Newport Aquarium, where families were treated to an excellent dinner and an opportunity to socialize while enjoying the Aquarium exhibits and shows.

Judging from the evaluations completed by the attendees, the families greatly appreciated this meeting. The comment from one family was echoed by all: "The meeting was wonderful. As usual, the CCHMC went all out to make the visit as comfortable as possible." ♦



Frank Smith, MD, discusses Cincinnati's oxandrolone clinical trial

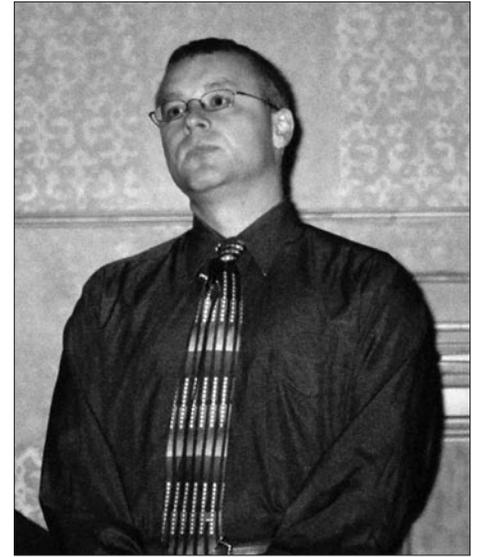
Mosaicism and Clinical Outcomes in FA

Jakub Tolar, MD, PhD, University of Minnesota, discussed the relationship between mosaicism and clinical outcome in FA patients. Mosaicism in FA means that two populations of cells are present, one with the FA defect and one without. The question is whether the presence of mosaic cells in the blood predicts mosaicism in the marrow and whether mosaicism has any impact on the clinical course in patients with FA.

Forty-two consecutive FA patients referred to the University of Minnesota were evaluated for mosaicism in the blood lymphocytes and marrow progenitor cells. Ten patients were found to have blood lymphocyte mosaicism and 12 were found

to have marrow progenitor cell mosaicism. Of the 12 with marrow mosaicism, only six were also mosaic in the blood. Of these six patients with mosaicism in both the blood and marrow, four had normal blood counts and two had severe bone marrow failure. Remarkably, of the remaining six that were mosaic only in the bone marrow, 5 had marrow failure. Of 4 that were mosaic only in the blood lymphocytes, only one had marrow failure thus far.

Tolar concluded that mosaicism may be more common than previously recognized. While it is clear that mosaicism does not protect FA patients from developing marrow failure, additional patients and longer



Jakub Tolar, MD, PhD

follow-up are needed to fully understand its significance. ♦

Donation of Tissue for FA Research: An Urgent Need

The Fund urgently wishes to expedite research into Fanconi anemia, particularly into the squamous cell cancers (SCC) that affect so many patients. To do that, we ask for your help in establishing a collection of tumor tissue samples and related medical records so that FA researchers can conduct their research. As you know, FA is a very rare disease. The number of FA patients who have biopsies of possible squamous cell tumors or have these tumors surgically removed is very small. **Thus, we ask that each such patient consider donating tissue samples for FA research.**

To facilitate tumor sample collection, the Fund has entered into a partnership with the National Disease Research Interchange (NDRI). NDRI is a non-profit organization with 25 years experience in obtaining, storing and distributing human cells, tissues and organs to researchers and scientists (www.ndriresource.org). NDRI receives funding for its Rare Disease Program from the

National Institutes of Health and from the NIH Office of Rare Diseases to provide researchers with the necessary materials to research rare diseases.

The donation of research materials (such as biopsy material or tumor tissue from head and neck cancer) through NDRI is designed to be simple and sensitive to donors and donor families. Potential donors will receive a packet of information describing the donation process and consent forms. Donations of tumor or biopsy material are made at no cost to the donor, except the cost of a blood draw if that is required for a particular research project. **The NDRI will work with your surgeon or physician so that the tissue can be obtained at the time of the procedure.**

NDRI follows strict governmental regulations and guidelines regarding donor consent and confidentiality; tissue samples are provided only to approved biomedical researchers. NDRI has a large database of

researchers worldwide who are seeking human tissue samples. NDRI matches donors with appropriate requests and then sends the samples directly to that researcher. Personal details of the donor remain strictly confidential, and no donor information is given to the scientists.

If a patient is diagnosed with SCC or needs a biopsy, the natural focus is on that urgent medical need. **NDRI therefore encourages prior enrollment, months or even years in advance, so that a patient's information is on record and ready should the need for a biopsy or surgery arise.** NDRI would then be able to contact your physician prior to the procedure and obtain your tissue donation without delay.

For more information or assistance in donating tissue, contact Jana Black, Family Support Coordinator at 1-888-FANCONI or jana@fanconi.org. To contact NDRI directly, contact Mike Keough, NDRI Private Donor Manager, at 1-800-222-6374 or raredisease@ndriresource.org. ♦

Our Mission Impossible

by Ana Simbulan

There is a lot of beauty in our country, The Phillipines, but such poverty, too. We are not impoverished by Philippine standards. We are college educated and have good jobs in Manila. We have a three-bedroom home and a car (both mortgaged), and three mixed-breed mutts. We also have an almost 6-year-old boy, Jack, who has Fanconi anemia.

Jack was born prematurely at 36 weeks, with low birth weight. He had most of the telltale signs of FA: missing radius and thumbs, a congenital heart defect, hearing impairment, and missing right kidney. But, nobody knew about FA here, and we thought we were out of the woods when tests revealed that he had 46 chromosomes.

So from day one, we cared for him and enjoyed the hospital-free

years like any family. Since Jack was diagnosed to be developmentally advanced at three years, we decided to let him attend regular school. He was in kindergarten until his bone marrow started to fail at five years, just like the handbook predicted.

Unfortunately for us, FA is unheard of in this part of the world, even if we have some of the finest doctors. If not for the internet, we would not even have learned about the FARF support group. Bone marrow transplants have been done in two of Manila's finest hospitals, mostly for leukemia patients. Health care insurance is virtually non-existent in our country. For Jack's eight hospitalizations and transfusions last year, we dipped into our savings. This, in a nutshell, is our mission impossible. But we will do whatever



Jack Simbulan

it takes to save our boy, because it is the right thing to do. ♦



Nick Slater

Update on Nick Slater

by Debby Slater

Nick will turn twenty this month and just celebrated his seven-year post-transplant birthday, as we all call it, on January 20th. His transplant was done by Farid Boulad, MD, at Memorial Sloan-Kettering Cancer Center in New York City, who will continue to care for Nick the rest of his life. Nick is doing well, although he still receives immunoglobulin every month during the fall and winter, but we are thinking of changing that to year-round, as his body is still not producing immunoglobulin on its own. We are not sure why this is happening, but we think it

has something to do with the EBV lymphoma he developed ten weeks post-transplant and the treatment he received to kill the lymphoma cells.

About a year ago, Nick developed shingles on his right leg, which began with muscle pain. We went to several doctors. One morning when Nick woke up with a fever, rash, pain, and headache, he was admitted to our local medical center for five days and lost all the muscle tone in his leg. He went to physical therapy for four months.

When Nick returned home from

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Leardon and Katie Keleher

by Lila Keleher

Leardon's Story

My daughter Leardon was bound and determined to live her life *her way* despite Fanconi anemia. Fiercely independent and resolute, Leardon Marie Keleher refused to let FA be the biggest part of her life. With the courage of her convictions, she pursued a life of adventure and achievements that took her far and wide. She was a truth seeker and a soul searcher. I have no doubt that her mental, spiritual, physical, academic, and business pursuits contributed greatly to her longevity. She said she knew her body better than anyone and did those things that contributed to her overall well-being. She enjoyed biking, swimming, and nature, but her passion was Aikido, in which she earned a black belt.

Born February 11, 1962, Leardon survived 33 years after being diagnosed with FA at age ten. During her last two years of life, she struggled with a myriad of critical problems related to FA. Yet she remained active until the very end when she succumbed to pneumonia 48 hours after driving herself to the hospital from her yoga class on May 30, 2005.

Though her accomplishments were many, Leardon would call herself unremarkable—"anyone could do" what she had done. She studied in France, traveled in Europe, earned a B.A. in French, worked her way through graduate school as a teaching assistant, earned an M.A. in Linguistics and English as a Second Language (ESL) certification; and continued to study many aspects of spirituality,

self-improvement, alternative medicines, business, and even a hospice program. She spoke French and Japanese and studied Arabic, Russian, and Spanish.

Leardon lived and traveled in the Far East for ten years. She began teaching ESL in Taiwan, but soon moved to Japan, where she was happiest and healthiest. After three years teaching ESL in a private school, she took a job as a scientific editor and English teacher for Hayashibara Biochemical Laboratories at their Fujisaki Cell Center. She then worked for Hayashibara Company, Ltd., in its Overseas Business Development group, giving presentations on product lines at science symposiums and for pharmaceutical companies in Japan and the U.S.

After returning to the U.S., she sold property she owned in Eugene, OR. In failing health, she made a list of things she still wanted to do. Seven months before she died, she bought a condo, a new car, some antique furniture and started a new



Leardon Keleher



Katie Keleher

real estate LLC. She died shortly before she was to close on her first investment property.

A research colleague in Japan captured her essence when he wrote: "...I counted her as a good person whom I could always rely upon... it was a great joy to me when we managed to meet and talk and spend time in one another's company. Leardon was always relaxed and earnest, and I was amazed at how much passion she put into everything she did.... I will always fondly remember her as bringing warmth and a rare wit to any event [when] I was fortunate enough as to be in her company. I will treasure my memories of her, and that part of her will live on in those who were lucky enough to be touched by her life."

Katie's Story

Leardon's sister Mary Katherine (Katie) was born March 27, 1969, with anomalies of both thumbs,

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Maria Vetro Godwin

by Mary and Mike Vetro and Friends

Maria Godwin was not diagnosed with Fanconi anemia until she was treated for squamous cell carcinoma of the head and neck with chemotherapy and radiation in her early thirties. As a result of her very serious reaction to this treatment, she was diagnosed with FA. Maria fought hard against FA, but succumbed to a recurrence of head and neck cancer on March 24, 2006 at age 36.

Her mother, Mary, recalls Maria as “a sweet and loving person. She cared more about other people than she did herself. She would say, ‘Mom, if my dying could help the doctors find a cure for FA, then so be it.’ She looked forward to Camp Sunshine. She loved the kids, and they loved her. She seemed to know just what to say to comfort others. She told me to remember that when she died she would 1) have no more pain; 2) she would be able to do whatever she wanted; 3) be able to eat whatever she wanted; and 4) she would have her wings. I miss her, but she is in a much better place as one of God’s angels.”

Her dad, Mike, misses Maria’s “spirit and determination. Her book, *Running Towards Tomorrow*, chronicles her struggles and her amazing strength despite knowing she was fighting against enormous odds. I guess the thing that stands out in my mind the most and endears her memory to me even more is that I learned only recently about all the lives she touched wherever she went, whether at Camp Sunshine or in St. Mary’s with the motorcycle club. To see and feel the love these people had for my little girl was truly heart-warming. To see these huge guys weeping when they would tell me of Maria’s love of life and her dedication to family and friends was an experience I will never forget.”

Her good friend, Donna Boggs, the mother of an FA patient, asked to memorialize Maria, too. Donna wrote: “She was hope. I dubbed her Ms. Maria Hope as well as Ms. Fireball! She soared through life. She was pint-size with a fifty-gallon attitude!”

Donna continued: “Her Irish inheritance gave her the stubborn zest she needed for life. She represented hope to many moms with young children with FA. She was 33, a month into her FA diagnosis when she contacted me, and I talked her into attending Camp Sunshine. The first few days were really hard on her. She was mad at the world and blamed everyone. She had a lot inside that she needed to get out of her system. By the end of Camp, she began looking around at the children, some of whom were a lot worse off than she. She began to feel differently and began to question God why she was granted life for so long and some little ones were not. She now had a new direction: she would do all she could to fight FA. She began thinking of ways to raise funds for research. She was spunky and, even when she could barely speak, she would call me and whisper her ideas for fundraisers!

The most thrilling call was on a Sunday when she thanked God for FA! I couldn’t believe my ears! I asked why, of course. Her answer was simple, ‘Because I wouldn’t have met you, Nicholas, Wesley, Will, or any of the FA families!’ She said, ‘You made God more real to me by showing me Christian love and what it is really about!’ That was the best compliment I could have ever received! There I was, trying to encourage her and what did little Ms. Fireball do? She encouraged me! That was Maria!”

Donna went on to say: “I will never forget the last camp she



Maria Godwin

attended. The tumor on her esophagus had returned, and she could barely swallow anything. My sister, Sharon, had made chocolate fudge while we were there and Maria ate and ate the fudge. It was still warm and was soothing going down! I can still hear the ‘Ummmmms.’ That was her last time with all of us at Camp. She departed on March 24, 2006. I spoke to her about three hours before she passed away. I sang “You Are My Sunshine” to her, because she used to call and sing it to Nicholas. Her brick in the Angel Walkway at Camp Sunshine should be in place by Camp time this year! Maria touched many and was loved by all. She will live forever in our hearts and minds, never to be forgotten.”

Donna’s sentiments were echoed by FA parents Kayla Lackey and Kristin Young. Kayla wrote that “Maria gave me HOPE. She showed me that there is life with FA, and that it can be happy. She was a true inspiration, and I miss her dearly.” Kristin remembers that “Maria taught us so much in the few years we knew her. She taught us strength, love, and most of all, hope. Her impact on our lives will never be forgotten.” ♦

Head and Neck Cancer Issues Resulting from Fanconi Anemia

by Richard Briga

I was diagnosed with Fanconi anemia at age 39 when I developed myelodysplasia. In 1998, I had a bone marrow transplant at the University of Minnesota, using marrow donated by my brother; I haven't had any blood problems since. In addition to some squamous cell skin cancer on my wrist that was removed in 2000, I've had four other cancers develop since my bone marrow transplant. All were head and neck cancers that began nine months after my transplant. I've been struggling with head and neck cancer ever since.

The first incidence of cancer involved a squamous cell tumor in my upper larynx that spread into six lymph nodes in my neck. I had a partial laryngectomy, radical neck dissection, and 31 radiation treatments to eradicate that cancer. In November of 2005, I had tongue surgery to remove a small ulcerated area on the left side of my tongue; the biopsy report identified it as superficial squamous cell cancer. Fortunately, that tongue surgery healed, because in 2003 I had some *lichen planus* (an autoimmune disorder) on the hard palate in my mouth removed with a laser. The resulting wound did not heal because it was in the radiation field from the prior radiation. The wound required 37 hyperbaric oxygen treatments to heal completely. Apparently, my tongue was not in the radiation field.

In the spring of 2006 I began to have symptoms of a sore throat and a respiratory infection. I've been getting screened for head and neck cancer every two months for many years, so at first I wasn't concerned about it being cancer. My tongue was still healing from the cancer surgery in late November, so I thought some of

the pain could be from that. My voice continued to get worse, and the soreness increased in my throat despite taking three different antibiotics for an infection in my lungs. At that point, I was referred for a PET scan, and the results came back with suspicious activity in the back of my throat, subglottic area in my larynx, and one lymph node in my neck. Despite getting endoscopic exams, the cancer was apparently not yet visible. I was immediately scheduled for a biopsy. After the procedure, my ENT surgeon explained to me that I had cancer in the back of my throat and cancer in a hidden area below my vocal chords. The only hope was to remove my voice box, my entire throat, and perform a bilateral neck dissection. A new throat would be constructed from a free-flap skin graft, using tissue from my left thigh. My surgery was scheduled in two weeks. By this time I was getting sick and having trouble breathing, with the cancer blocking my airway as it grew. I was told it was a very aggressive cancer. I suspected it was, because of how fast I became sick and how bad I felt. My last throat cancer in 1999 didn't make me physically sick, including having anemia, like this one did.

I underwent surgery on June 20, 2006 and was hospitalized for one week. Everything seemed to go well at first but, after I had my feeding tube removed ten days after surgery, I developed a fistula (leakage to the outer skin) in my neck and had to have the nasogastric feeding tube reinserted. The fistula would not heal because of the past radiation therapy to my neck, so I began hyperbaric



Richard Briga

oxygen treatments in August 2006. After 30 treatments, my neck seemed to be healed so I had the feeding tube removed and finished hyperbaric treatment. After one week, the fistula opened up again and my neck began leaking when I drank liquids. I returned for another 60 hyperbaric oxygen treatments and finished in January 2007. While the fistula has improved, it still leaks on occasion, but only a few drops. I cannot have additional hyperbaric treatments, so I'll have to hope it heals and closes eventually.

I was hoping to get a new voice with a TEP voice prosthesis but, until the fistula heals, I'll have to wait. For now, I speak with an artificial larynx and expect to go for speech therapy soon.

In November of 2006, I noticed a small red spot on my tongue that was getting sore. My ENT surgeon recommended we biopsy the area.

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Living with FA

by Kelly Turner-Broome

Hello. My name is Kelly, and I am 23 years old. I recently celebrated my 15th year since my unrelated bone marrow transplant. I could say that living with FA has been easy, but I would be lying as it hasn't been easy all the time. For example, my husband and I tried adopting a baby a couple of years ago, and Child, Youth and Family Services didn't know anything about FA, so they turned us down—they didn't even try to understand or want to learn about FA.

On the other hand, FA has its ups—for example, meeting new and interesting people like myself! When I was younger, I used to get really upset about having FA, as people treated me differently, but today I don't see myself as different, but as unique. I may not be able to do things like sports, because they make me tire easily, but I prefer to do other things, such as cross-stitch and scrap-booking.

Although I have FA, I consider my life to be pretty normal. I have regular specialist appointments to



Kelly Broome with nephew Kodi

monitor my health, but apart from this, I just get on with life as other people do. I think attitude is important: I could choose to be negative and feel sorry for myself for having FA, but it would only spoil each day that I could be enjoying. I am grateful to have had a successful bone marrow transplant that enabled me to have a choice; I know there are many other FA people who have not been so fortunate. ♦

Update on Nick Slater

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transplant, he was home-schooled for a year and slowly went back to school. He started with one class a day and worked his way up to a full day of school. Nick got a part-time job as a cook in a burger place and, about a year later, he began working at Family Dollar in our village. He worked there for 14 months and was promoted. Nick now works for Domino's Pizza as a Delivery Expert. He usually puts in about 40-45 hours a week and loves his job.

Nick is now a full-time freshman in a local community college, taking

online classes because it's better for his schedule and health. Nick sees different doctors on a regular basis. He usually makes his own appointments and goes on his own unless he is going to New York City; then his father and I go with him. Nick is living as a normal, healthy, young adult and is going out with friends and having fun. He doesn't smoke or drink alcohol, because he knows that that will do more harm to his body.

The one thing that does concern Nick is getting a job after he graduates that offers medical insurance, which seems to be increasingly difficult for young people. Someday Nick plans on owning his own business. ♦

Leardon and Katie Keleher

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the key to Leardon's diagnosis as well as Katie's. Although Katie, too, had FA, she never developed anemia. At nine, she was diagnosed with juvenile diabetes. As a toddler, Katie began a lifelong struggle with asthmatic allergies, which grew increasingly worse as she reached her early twenties. In March 1998, she was told she needed a lung transplant. She died June 18, 1998, at 29 of lung disease. Both Katie and Leardon developed squamous cell carcinoma of the tongue.

Katie was a free spirit—she loved life, fun, and her friends. A great photographer, she captured many of her friends and relatives for posterity. She started college and did well, but she soon found the student union was more interesting than the classroom! She wasn't a goal-setter. She lived her life as it happened, and nothing was going to dictate how she should live it, not even health issues. She was generous of spirit, warm-hearted, and a risk-taker. But she could be serious and philosophical and often wrote about her feelings and problems in her journal. All her life she had a simple, but strong, faith in God.

I would like to acknowledge, with gratitude, the care given to both Leardon and Katie during their lifetimes by Dr. Harry S. Messmore (ret.), Loyola University Hospital & Clinics, Maywood, IL; Dr. N. T. Shahidi (ret.), University of Wisconsin Hospital & Clinics, Madison, WI; and Leardon's mentor and friend, Dr. Jun Minowada, former Director, Fujisaki Cell Center, Hayashibara Biochemical Laboratories, Okayama, Japan. ♦

Head and Neck Cancer Issues

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The biopsy report returned as squamous cell cancer *in situ*, meaning it was an early stage cancer. I had surgery a week later to remove that and some dysplasia from the other side of my tongue. Presently, I'm recovering from the tongue surgery, which seems to be healing well. I'm concerned about a cancer recurrence on my tongue, but I can only watch and be vigilant if I notice something that looks suspicious.

As bad as all of this sounds, I can still do almost everything I did before. My main problems right now are speaking and swallowing. While my voice isn't too bad with the artificial larynx, it should improve dramatically with a TEP voice prosthesis. I'm also counting on my swallowing to improve in a few months when my ENT surgeon dilates my throat. I can still eat now, but it's a slow process, and I can only swallow certain foods.

After my first throat cancer, I felt that the head and neck cancer issues are the most frightening aspect of Fanconi anemia and, after four bouts of head and neck cancer, I'm now convinced of that. While head and neck cancer screening is important in detecting cancer early, it isn't always enough to prevent significant damage from occurring when head and neck cancer strikes. Until a cure for FA is found, the only strategy now is for me to get examined once or twice per month by my ENT surgeon. Hopefully, a recurrence won't occur but, if it does, I'm counting on finding it early, while it's easier to treat. ♦

In Loving Memory

Noah Felmy
12/24/03 ~ 1/01/07

Maria Godwin
2/4/70 ~ 3/24/06

Nina Morrison
4/21/03 ~ 12/20/06

Danielle Sacks
4/5/74 ~ 11/16/06



Questions and Answers about the Human Papillomavirus

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Does HPV Present a Special Threat to Fanconi Anemia Patients?

FA patients are at high risk for cancers of the head and neck and for anogenital cancers (cancers of the vulva, cervix and anus). One study of 33 FA head and neck tumors found HPV in a very high percentage of these tumors (83%); a second study found only two of fifteen tumors positive for HPV. This discrepancy is currently under investigation. Given the high risk of cancer in the FA population, some physicians have advocated reducing the additional risk factor of HPV through vaccination.

What is the HPV Vaccine?

In June 2006, the FDA approved the HPV vaccine Gardasil for females ages 9-26. Prior to approval, over 11,000 young women were tested to see if this drug was safe and effective, and it was both. It has not yet been tested in the FA population. Gardasil protects against HPV types 16 and 18, which cause 70% of cervical cancers, and against HPV types 6 and 11, which cause 90% of genital warts. It is administered in three shots over a six-month period of time. This vaccine is expensive (from \$125-\$150 per shot), but is often covered by insurance. It has not yet been approved for males, but can be prescribed "off label" if a physician is willing.

My daughter is already sexually active. Does it make any sense to vaccinate her now against HPV?

The HPV vaccine protects against four subtypes of HPV. Even if your daughter is sexually active, and even if she is HPV positive, it is very unlikely that she has been infected by all four types. Vaccination may still make sense.

You are advised to discuss these issues with your treating physician. ♦

Social Security Benefits for Children with Disabilities

Many families struggle with the financial burden of providing for the ongoing medical care of their FA children who have serious health problems and physical anomalies. Some may not realize that their children might be eligible for Supplemental Security Income (SSI) benefits paid from Social Security.

SSI benefits are payable to children under age 18 who come from homes of limited income and resources **and** who meet the Social Security Administration's definition of "disability."

For an adult, disability is defined as an impairment which prevents substantial work for at least one year. For children, disability is defined more subjectively as a "marked and severe functional limitation" which lasts for at least 12 continuous months or is expected to result in the child's death.

The Social Security Department has a specific list of impairments for which disability is automatically

assumed. Because Fanconi anemia is not on that list, children must go through a disability evaluation process to determine if their level of impairment is equal to the listed criteria. If not, a disability evaluation team will assess the child's ability to function in everyday life. Children are considered disabled if their condition substantially reduces their ability to behave in ways that children of a similar age normally do.

The evaluation process can take months, and begins when you contact your local Social Security office. Be prepared to provide detailed medical records and to describe how your child's disease affects his ability to function as a child of similar age normally would.

Your local Social Security office will make the income eligibility determination, but documents and evidence pertaining to the disability are sent to a state office, usually called the Disability Determination Service (DDS), where a team of

evaluation specialists and doctors decides whether your child meets the Social Security Administration's definition of "disabled."

In most states, children who qualify for SSI benefits also qualify for Medicaid. Depending on the severity of your child's disability, other benefits may be available. One family discovered that their child qualified to receive daily in-home nursing care because he had technology-related medical needs (such as a trach, g-j tube, and central line) which required skilled care. In this state, income requirements were waived and only the child's medical needs were considered. Medicaid eligibility, and the specific benefits made available, will vary from state to state, so it is worthwhile to contact your local social security office regarding your child's specific circumstances. Hospital social workers are also a good resource to help you identify what types of assistance may be available in your area.

In the next edition, we will discuss Social Security disability benefits for adults. ♦

Supplemental Security Income

- Available to children under 18 with minimal personal income
- limited family income and resources, and
- deemed "disabled" by Social Security evaluators.

For More Information

- Contact your local Social Security office
- Call 1-800-772-1213 to reach the Social Security Administration
- Visit www.socialsecurity.gov to obtain a copy of the booklet "Social Security Benefits for Children with Disabilities"
- Visit www.ssa.gov to use the Benefits Eligibility Screening Tool (BEST) to anonymously determine whether your family qualifies

Editors' Note and Disclaimer

Statements and opinions expressed in this newsletter are those of the authors and not necessarily those of the editors or the Fanconi Anemia Research Fund. Information provided in this newsletter about medications, treatments or products should not be construed as medical instruction or scientific endorsement. *Always consult your physician before taking any action based on this information.*

FUNDRAISING

Fundraising Efforts Flynn Style

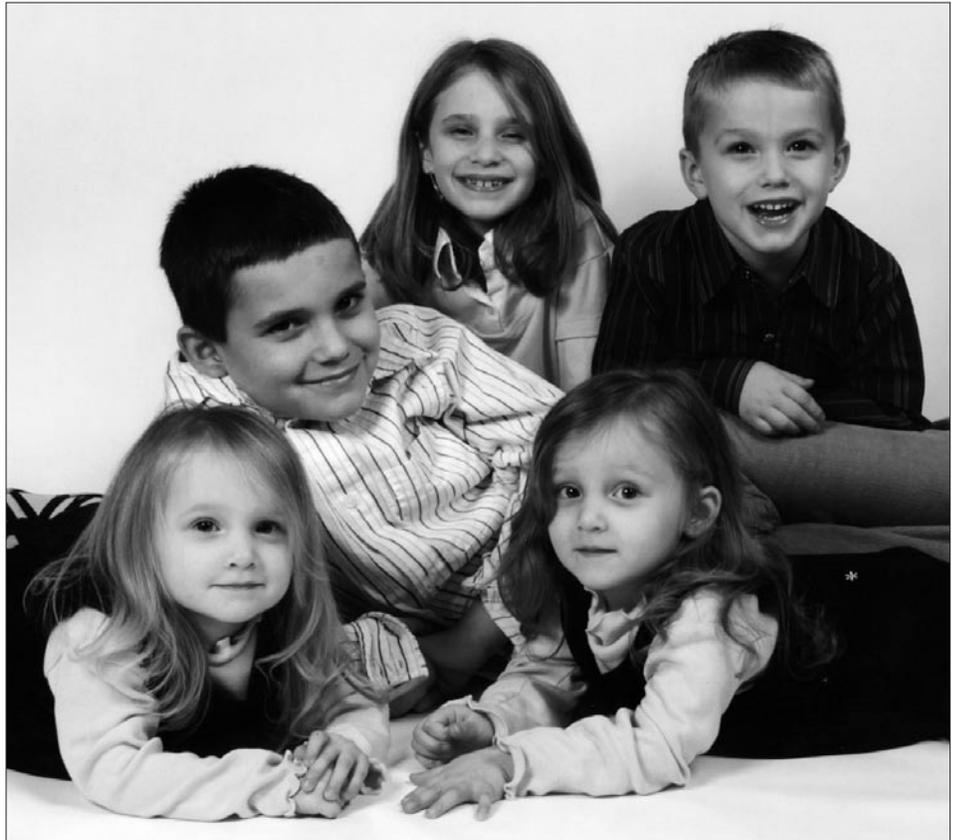
by Doreen Flynn

Our first fundraising effort was a Christmas letter sent to family and friends after our oldest daughter, Jordan, was diagnosed with FA in April of 2003. We were eager immediately to learn more about the disease and about how we could help.

Being newly diagnosed and not knowing too much about the disease, we decided to take the family to Camp Sunshine that summer. There we met many wonderful families just like ours and learned about new research for FA and how families like ours can raise money to help fund research efforts. I left Camp that year with a goal of starting out small. I decided to write a Christmas letter and send it to as many family members and friends as possible.

As I sat down to write my letter, I realized that it was probably one of the most difficult things I had ever written. I was not only asking for money, but I was sharing our diagnosis for the first time. After many rough drafts, my letter was finished and I sent it off to FARE, along with my list of names and addresses so that they could mail the letter. It was that simple—in the sense that the only part I really had to do was to write the letter and decide to whom to send it.

I don't remember the total amount raised from that letter but, as a result, we still have people who donate annually to FARE from what started as one letter. Some of the companies they work for match their donations.



The Flynn Family

My husband is a pilot in the United States Navy. Every year he and his colleagues fill out their forms for the Combined Federal Campaign, and FARE is listed as a possible recipient of their donations. My husband talks to his fellow shipmates and officers to let them know about FARE. Many of the people he works with know that we have three daughters affected by this disease and are more than willing to donate to FARE.

I belong to the Officer Spouse Club for the military. Last year we had a Service Auction, and we elected to donate the proceeds from the auction to FARE. It was a little more elaborate to set up than writing a letter, but many of the other spouses

helped, and it was a fun event to put together.

I am a big advocate of bone marrow drives and host a few each year with the help of the Department of Defense. Through these drives, people have reached out to us to ask how they can help. I tell them they can donate to FARE, and many have.

I am grateful for all that FARE has done in funding the research for this disease. The little help I can give to raise money for FA research will benefit my three girls in the future. It is the least that I can do. ♦



Rachel Altmann, Charlene Padden, Nancy Padden, Peg Padden, and Mark Brooks.

The 3rd Annual Valentine Fanconi Anemia 5K Run/Walk

FA parent Peg Padden once again organized the very successful Annual Valentine Fanconi Anemia 5K Run/Walk in downtown Portland, OR—and raised \$27,000 for FA research! Peg noted that, because FA is such a rare disease, it does not receive as much financial support as other diseases: “Like an orphan, we’re pretty much on our own.” So, she continues to work hard to raise money for a cure. She has already reserved the date for next year’s race: February 10, 2008. Start training now!

The Nineteenth Annual International FA Scientific Symposium

OCTOBER 8–11, 2007

**The Westin Michigan Avenue
Chicago, Illinois**

Donations through the Combined Federal Campaign or United Way

We are grateful for the many donors who choose to donate to the Fanconi Anemia Research Fund through the United Way (UW) or the Combined Federal Campaign (CFC) in their communities. However, we often receive such donations in a lump sum (the combined donations of all donors to the FA Research Fund through the particular UW or CFC campaign), without being given the name of the individuals who made the donations. Thus, we are unable to thank these donors personally. If you or someone you know has not received a thank you from the Fund for a UW or CFC donation, we would appreciate being contacted at info@fanconi.org or at 1-888-FANCONI so that we can acknowledge the contribution. ♦

Carla Runs for FA

by Karen Siebenthal

When Carla, age ten, returned to school following summer vacation, she was presented with a challenge. Carla, who does not have FA, attends Soundbridge Academy, a school for the hearing impaired. The mother of another student and a few teachers who are marathon runners had approached the Greater Hartford Marathon committee about allowing the children of Soundbridge to participate in the marathon to be held October 14th. Waiving the normal participation fee, the children were permitted to log the first 25 miles, walking or running, between September and the marathon date, but had to complete the final mile on race day. They would be presented with the same

medals of accomplishment as all the runners and would be able to participate in all the day's activities. The purpose was to give these children a sense of accomplishment and the opportunity to succeed in achieving a goal despite their disabilities.

We knew it would be fun to see Carla and her friends with their hearing aids and cochlear implants cross the finish line, so we joined the "Break the Sound Barrier!" team. In addition, we decided to dedicate Carla's efforts to her brother Christopher, who lost his battle against FA in 2001, when she was five and he was just 12. We quickly established a web page for donations, sent out e-mails and letters to family, friends and colleagues, and our fundraising



Carla Siebenthal

efforts were off! During the next six weeks, Carla and her new puppy, Sarek, walked around our neighborhood, and Carla tracked her mileage on a chart.

On a brisk, sunny Saturday morning we traveled to Hartford, CT to join in the fun. The "Break the Sound Barrier!" team walked to the 25-mile point of the race course and then Carla and her friends ran the last mile to the finish. They were so proud of themselves! Carla was so caught up in the excitement that, although most of the previous miles had been at a walking pace, this mile was done running. In fact, I never got to see her cross that line because she left me in the dust!

This event was fun and an easy way to generate donations for FARE. It served the purposes of fitness, accomplishment, and—most importantly—our need to continue to support the research into a disease that has taken away so much from our family and many others. Carla will never stop missing "her friend, Chris," but she will know that she has honored his memory well. ♦

Fundraising Assistance

Did you know that 85 percent of the donations to the FA Research Fund are raised by FA families? Obviously, we need the efforts of everyone who reads this newsletter!

FA Family Fundraising Teams now exist on a regional level to assist our families with fundraising. If you are unsure how to contact your team leader, contact the FA Research Fund.

The staff of the Fund is ready to assist you with your fundraising efforts. We'll help you write or edit your fundraising letter; photocopy it; provide the postage; and mail it from our office, using your mailing list. If you're going to hold a fundraising event, we'll provide similar help.

The FA Research Fund asks FA parents to make certain that any event they hold is covered by liability insurance. Insurance for a one-time event is often available through a family's homeowners insurance policy as a relatively inexpensive insurance rider. Please contact the Fund if you need assistance obtaining or paying for this required insurance.

Please ask your donors to write their donation check to the "Fanconi Anemia Research Fund." When a donation is received, we will generate a letter of thanks from the Fund with a tax receipt, and we'll notify you that a donation has been made in your name.

Our sincere thanks to all of you for your efforts to raise funds to combat this devastating disease.

Carlee Chew

by Kim Chew

Our daughter Carlee is 11 years old. She was diagnosed with FA in 2004 and, from that day, our world began to change. We were unsure of what the future would bring.

Late in 2004 my Human Resources manager at work asked if the employees could host a benefit for our family. Our Community Relations Committee, which is made up of co-workers who volunteer, went to work. They decided on a dinner/auction, with a theme based on Carlee's favorite Disney character, Tinkerbell. The event was called "When You Wish upon a Star."

The cost per person was \$30, which included a buffet dinner, beer, wine, soda, a DJ, and a live band. One of the band members was one of my co-workers. Every department in my company made up gift baskets (45 in total), and family and friends donated items for an auction, which was a very big hit. The president of my company, SLM Financial, had set a fundraising goal of \$10,000 for the event. On that night they doubled that amount, giving us a check for \$20,000. I was so stunned at how much they had done and raised—it was so amazing!

The money was given to us for living expenses when it came time for transplant. We had picked the University of Minnesota Medical Center. Our family could have certainly used all of that money, going from New Jersey to Minnesota and staying for four months with no salary coming in. But, I could not keep all of that and not donate anything for FA research. So, we donated \$5,000 to FARE, and my company matched every dollar.

We went to Fairview Hospital at the University of Minnesota for transplant in May 2006. We were all scared and not sure about what

was going to happen. Everybody on 4A—from the doctors to the nurses aides—at Fairview was so nice and helpful, understanding and comforting. We returned home to New Jersey in the middle of September. Carlee is doing really well. We go to the doctor once a month for blood counts, and she just started back to school for half days in January.

We will continue to "Wish upon a Star" that in the future we will find a cure. We all need to "believe." Believing is the key. ♦



Carlee Chew and her mother, Kim

Upcoming Fundraisers for FA Research

March 10: Fourth Annual Evan's Enchanted Evening, DePere, WI

Dinner, dance and auction

Contact: Kim Connelly at 920-339-0503

April 28: Second Annual Croppin' For A Cure, Green Bay, WI

Scrapbooking with food, vendors, give-a-ways, contests, and raffle

Contact: Kim Connelly at 920-339-0503

May 13: Seventh Annual Concert and Wine Auction, Eugene, OR

Contact: Sharon Schuman, ssschuman@uoregon.edu

June 15: Third Annual Coley's Cause Golf Tournament, Lakeville, MA

Golf tournament, silent auction, dinner and raffle

Contact: Kristin Levine at kawlev@comcast.net

August 25: Second Annual Play for FA, Perrysburg, OH

Casino night and silent auction

Contact: Danielle Burkin at 419-874-0795, dburkin21@netzero.net

October 28: Golf Tournament, Richmond, VA

With PGA golfer, John Rollins

Contact: Kevin McQueen, kmcqueen@captechventures.com

October (exact date TBA): Casino Night, Richmond, VA

Contact: Kevin McQueen, kmcqueen@captechventures.com

Ongoing: Kaps for Kendall

In memory of Kendall Atkinson, donate to the Fund by sponsoring a volunteer to knit hats for children and adults who lose their hair to chemotherapy and radiation.

Contact: Allison and Whitney Atkinson at www.kapsforkendall.org

Family Fundraising Efforts

In 2006, FA families raised \$1,752,681, including \$6,522 through United Way and \$9,667 through the Combined Federal Campaign, for Fanconi anemia research, thereby exceeding our past fundraising efforts. We extend our sincere thanks to all the FA families who worked so hard to raise these much-needed funds, while still dealing with the challenges of Fanconi anemia. One hundred forty-four FA families raised funds this year and, of those, 90 raised \$500 or more, 24 raised \$10,000 or more, and six raised over \$50,000. Of most importance, again this year all other FA families combined raised more than FARF founders, Lynn and Dave Frohnmayer, who exceeded their own record again this year by raising over \$600,000 or 34% of the total amount raised. All other families raised 66% of all funds raised, which greatly relieves the fundraising burden on Lynn and Dave—and sets the stage for an organization that will be viable without reliance on just one fundraising family. We are exceedingly grateful to all of you.

FA families who raised funds in 2006 are the following:

Over \$600,000

Dave and Lynn Frohnmayer

\$200,000 to \$599,999

Glen Shearer and Peggy Padden

\$100,000 to \$199,999

John and Audrey Barrow

\$75,000 to \$99,999

Ken and Jeanne Atkinson

\$50,000 to \$74,999

John and Kim Connelly
Dan and Nikki McCarthy

\$25,000 to \$49,999

Peter and Tara Himmelreich
William and Carol Kuell
Todd and Kristin Levine
Kevin and Lorraine McQueen

\$15,000 to \$24,999

Randy and Nancy Bloxom
Brian Horrigan and Amy Levine
Tanner and Jessica Lindsay
Stuart Cohen and Deane Marchbein
Mark and Diane Pearl
Bob and Andrea Sacks

\$10,000 to \$14,999

Donald and Danielle Burkin
David and Kim Chew
Chris and Susan Collins
Charles and Katy Hull
Jim and Holly Miranda
Jack and Lisa Nash
Michael and Kim Williams

\$5,000 to \$9,999

Mike and Kerrie Brannock
Joseph and Nancy Chou
Ed and Janice Duffy
Michael Glas and Carol Felmy
Andrew and Jennifer Gough
Alan and Rachel Grossman
Jeff and Beth Janock
Fred and Nancy Nunes
Erik and Lori Salo
Mike and Beth Vangel

\$1,000 to \$4,999

Allen Wright and Claire Ashurst
Mark and Linda Baumiller
John and Francene Berglund
James and Tracy Biby
Darryl Blecher and Diana Fitch
Jeffrey and Donna Boggs
Lezlie Chesler
Donna DellaRatta
James and Carol Dillon
Antonino and Marie DiMercurio
David and MaryAnn Fiaschetti
Stephen and Doreen Flynn
Susan Gannon
Maria Godwin
John and Martina Hartmann
Roger and Eleanor Herman
Leardon Keleher
Randy and Christie Kelley
John and Karilyn Kelson
Erik Kjos-Hanssen and Turid Frislid
Gregory and Lynette Lowrimore
Steve and Allison McClay
Adam and Olivia Mindle
Tyler Morrison and Rachel Altmann
Robert and Mary Nori

Derek and Ginger Persson
Peter and Janice Pless
John and Dianne Ploetz
Marcia Reardon
Jack and Tannis Redekop
Alaina Riley
Leonard and Jan Riley
Rick and Lynn Sablosky
Ron and Elisa Schaefer
Bill and Connie Schenone
Bryan and Karen Siebenthal
Mark and Susan Trager
Marc and Sandi Weiner
Sean and Kristin Young

Up to \$999

Andrew and Vicki Athens
Roger and Sarah Baker
Cherie Bank
Conrad and Joan Bender
Michael and Diane Bradley
Richard Briga
Mary Cable
Mark and Brenda Carpenter
David and Paula Ceresa
Jeanette Clark
Tyler and Teresa Clifton
Brian and Margaret Curtis
Jerome and Blenda Dahlin
Richard Day
Pat and Mary DiMarino
Sandra and Lindsay Dunn
Nathan and Ann Eckstadt
Gene and Lynn Eddy
Sharon Ellis
Frederic Engel
Curt and Crystal Fales
Justin and Britteny Ferrin

How You Can Help

Your donations have helped move this fatal disease from an orphaned status in 1989 to a disease with treatments that now buy precious time for FA patients. As the genetic basis of Fanconi anemia continues to be deciphered, your donations are also having an impact on the lives of millions in the general population. We continue to move to the mainstream of scientific interest. To help us in this fight, consider these ways to donate:

Gifts to celebrate an occasion: If you are celebrating a birth, a birthday, an anniversary, a graduation, a marriage or other event, consider asking that donations be made to the Fund in lieu of a gift.

Gifts to commemorate a loved one: Families who have lost a loved one may ask that a donation to the FA Research Fund be made in their memory. The Fund has received many thousands of dollars from caring people who have commemorated loved ones in this way.

Bequests: If you are preparing or reviewing your *Last Will and Testament*, consider making a bequest to the Fund.

Matching Gifts: Many employers will match the charitable gift of an employee. Ask if employers have taken this initiative to encourage philanthropy. This is an excellent way to double your donation.

Gifts of Appreciated Property: Donors who have property that has gained greatly in value (stock, vacation homes, art items, etc.) can avoid tax liabilities and provide enormous support by donating this property to the Fund. Please contact us for helpful advice and suggestions.

Sales on eBay: If you sell an item on eBay, you can designate that all or a portion of the proceeds be given to the Fund through their MissionFish program (www.missionfish.org). The Fanconi Anemia Research Fund is now a registered charity with MissionFish. To learn more, see www.missionfish.org or contact the FA Research Fund.

United Way or Combined Federal Campaign: If you work for an organization covered by either of these organizations, consider making a donation and asking your colleagues to do the same.

Donations Online: Look for the PayPal button in the Donations section of our web page (www.fanconi.org)

Donations by Telephone: Call us at (541) 687-4658 or toll free at (888) FANCONI.

Donations by Mail: 1801 Willamette Street, Suite 200, Eugene, OR 97401.

Bret and Nanette Vannostran Foster
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Pat and Maria Gleason
Allen Goldberg and Laurie Strongin
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Dennis Lower and Sharon Swanson
Melissa Turner
Al and Michelle Valenzuela
Reese and Nancy Williams
Wesley and Sue Wycoff ♦

Your FA Research Dollars at Work in 2006

During 2006, the Fanconi Anemia Research Fund awarded \$624,667 in research grants to the following projects:

Investigator: Hans Joenje, PhD, Free University Medical Center, Amsterdam, The Netherlands

Title: *Cloning and Partial Characterization of FANCI*
Amount: \$125,584

Investigator: Anuj Mankad, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Title: *Characterization of the FANCA Protein and Patient-derived FANCA Mutants*
Amount: \$70,000

Investigator: Luca Pellegrini, PhD, and Shobbir Hussain, PhD, University of Cambridge, Cambridge, United Kingdom

Title: *The Structural Basis for the Role of FANCG in Homologous Recombination*
Amount: \$72,708

Investigator: John Postlethwait, PhD, University of Oregon, Eugene, OR

Title: *A Small Molecule Screen for Fanconi Anemia*
Amount: \$109,231

Investigator: Christopher Walsh, MD, PhD, and Beiqing Pan, MD, PhD, Mount Sinai School of Medicine, New York, NY

Title: *Generation and Differentiation of FA Human Embryonic Stem Cells*
Amount: \$75,368

Investigator: Susanne Wells, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Title: *Fanconi Anemia and HPV-associated Disease*
Amount: \$150,000

Investigator: Athanasios Zavras, DMD, DMSc, Harvard School of Dental Medicine, Boston, MA

Title: *Technology Assessment for Oral Cancer Early Detection*
Amount: \$21,776



**Fanconi
Anemia**
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