

# FA FAMILY NEWSLETTER

#40

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

Fall 2006

## NCI Plans Study of New HPV Vaccine

The human papilloma virus (HPV) is usually spread through sexual contact. HPV causes 100% of cervical cancer in the general population, and 25% of the cases of head and neck cancer in non-FA patients. Although it has been implicated in one study of oral cancer in Fanconi anemia patients, a second study did not find HPV in FA oral cancers. This difference is currently under investigation. FA females have an increased risk of cervical cancer. A newly approved prophylactic (preventive) HPV vaccine is now available. Trials of this vaccine have demonstrated its ability to prevent cervical cancer in the general population.

The National Cancer Institute  
*continued on page 2*



*FANCI board members and FA family members give Family Support Coordinator Suzanne Planck a great send-off!*

## Annual FA Family Meeting

Forty-two FA families from the United States, Canada, Germany and Argentina came together from July 21 – 25, 2006 at Camp Sunshine on the shores of Sebago Lake, Maine. A marked change was that six adult FA patients attended this year, an encouraging sign for all FA patients—especially since they all seemed to be having a wonderful time! A couple of the adults even volunteered as Camp Sunshine counselors this year, to the delight of the younger FA patients.

As always, families attending the meeting for the first time arrived with anxiety and concern about participating in this new experience and about possibly hearing disturbing information about the medical

aspects of Fanconi anemia. They also worried that their youngsters would be traumatized by hearing too much about FA or that they just simply would not like the experience. By the end of the meeting, it was clear that the kids loved every minute of Camp and that parents had received tremendous value from the medical sessions and strength from getting to know other FA parents.

The expert physicians who treat FA patients with such brilliance, professionalism and concern turned out in force to make presentations on their latest medical protocols and research findings. The presenters included John Wagner and Margy MacMillan from the University of

*continued on page 16*

### HIGHLIGHTS

Squamous Cell Carcinoma Conference.....	2
Head and Neck Cancer in FA Patients .....	3
Chromosomal Abnormality on 3q Predicts Poor Outcome ....	6
Research Funded in 2006.....	10
Family News.....	12
Fundraising.....	20

## Squamous Cell Carcinoma Conference

Squamous cell carcinoma (SCC) of the head and neck is one of the most deadly forms of cancer. It is commonly associated with tobacco and alcohol use, but it appears spontaneously in many non-drinking and non-smoking FA patients. Consequently, SCC in FA patients is of great interest to cancer scientists generally.

To encourage research into SCC in FA patients, the Fund sponsored a workshop in Bethesda, MD, from April 27-28, 2006. Grover Bagby, Jr, MD, OHSU Cancer Institute, Portland, OR, and the chair of the Fund's Scientific Advisory Board, moderated this highly successful meeting. Squamous cell carcinoma experts from such institutions as Johns Hopkins, the National Institutes of Health, Memorial Sloan-Kettering Cancer Center, MD Anderson Cancer Center, Cornell, the University of Chicago, as well as from research institutes and universities in Scotland, England, Amsterdam, and Paris, attended the conference. This productive workshop identified new directions to advance our understanding and prevent, identify

and treat this serious complication in FA patients. Conclusions and recommendations of workshop participants are as follows:

- We need an efficient distribution system so that FA tissues and tumor samples can be procured, stored and sent to researchers. Participants identified a plan to meet this need.
- We must determine whether human papilloma virus (HPV) has a role in FA cancers of the head and neck. One study of oral cancer in FA patients found HPV in tumor samples; a second study did not. At this workshop, two additional laboratories agreed to re-test samples and investigate this discrepancy.
- Treatment of head and neck cancer in FA patients is very toxic. We need aggressive screening strategies to identify pre-cancerous tissues.
- Clinical trials of new drugs should provide a separate arm to include FA patients, who are too few to justify a separate clinical trial.

- Young patients with head and neck cancers should be screened for FA.
- Targeted therapies using non-cross-linking agents should be pursued.
- In a recent study by Markus Grompe, MD, Oregon Health and Sciences University, the antioxidant drug Tempol clearly prolonged survival in cancer-prone FA mice. Investigators at the National Institutes of Health are exploring the possibility of developing this agent for clinical trials.

The sharing of information and the collaborations established at this meeting will be invaluable in accelerating the pace of research into this aspect of FA. ♦

### NCI Plans Study of New HPV Vaccine

*continued from page 1*

(NCI), with support from Merck, is developing a protocol to study the recently licensed Merck HPV vaccine (Gardasil) in populations at risk for HPV-related malignancies, including patients with FA. The goal is to conduct the study at multiple sites; several other investigators at centers around the country who follow large numbers of FA patients have been approached about participating. NCI will serve as the coordinating site for the study, which will be open to males and females with FA who are  $\geq 9$  years of age. There will be two cohorts:

Cohort 1: FA patients who will

*continued on page 18*



*Participants in the Squamous Cell Carcinoma Conference.*

## Head and Neck Cancer in FA Patients: What We ALL Need to Know

Bhuvanesh Singh, MD, PhD, Memorial Sloan-Kettering Cancer Center, gave clear direction to FA patients and families on what they could do to prevent, monitor and treat the deadly complication of head and neck cancer. Many of us felt the urgency of his message and appreciated his frank, direct approach in dealing with a frightening subject.

### Why should we worry about head and neck cancer?

These cancers appear in .038% of the general population and usually in patients in their 50s and 60s. In FA, prevalence is 19% overall, and 21% by age 40. Median age is 31, with a range from 15 to 49. Among FA patients with these cancers, tobacco and/or alcohol usage is only 16%; in the general population, alcohol and/or smoking account for over

85% of all cases. The location of these cancers is also different. In FA patients, 65% of head & neck cancers are in the oral cavity, primarily on the tongue. A simple mouth exam picks up most of these cancers. In the general population, 27% of head and neck cancers occur in the oral cavity; most are back farther in the mouth and throat.

### What do these cancers look like?

Head and neck cancers often begin as white patches in the mouth. At first, these are surface lesions and can wax and wane. One does not need to biopsy every white patch. Some undergo a subtle change, and develop clinically appreciable thickness and depth. If this is the case or if lesions do not go away in 3-4 weeks, they should be biopsied and, if possible, removed. An open sore in the



*Bhuvanesh Singh, MD, PhD*

mouth that persists for 3-4 weeks is also a concern and should be evaluated by a physician.

*continued on page 5*

## Boulad Presents Transplant Results

Farid Boulad, MD, Memorial Sloan-Kettering, reported on 20 alternate donor transplants performed at his center from May 1998 through January 2006. Boulad's protocol included total body irradiation, fludarabine, cyclophosphamide and the immunosuppressive drugs anti-thymocyte globulin and tacrolimus. Seventeen patients received peripheral blood T-cells with potent T-cell depletion; three received T-cell depleted bone marrow. Nine patients had mismatched related donors; 11 had unrelated donors. Five patients were older than 20. Eleven had advanced disease, including myelodysplastic syndrome (MDS) (5 patients) or acute myelogenous leukemia (6 patients). Six patients had chromosome 7 abnormalities. Ten patients had a history of infection; twelve had been transfused, and 12 had taken androgens prior

to transplant. A total of 17 patients received transplants from mismatched donors (9 related and 8 unrelated).

Fifteen of 20 patients were alive at the time of Boulad's presentation (72%); 14 were alive disease-free (63%). The last two patients in this cohort developed significant graft-versus-host disease (GVHD). Three patients relapsed with leukemia; two of these patients died of their disease. The one patient who relapsed but is alive presented with MDS pre-transplant, but relapsed with leukemia post-transplant. Three patients succumbed to infections.

Boulad insists that ALL patients remain in New York City for six months post-transplant. By six months, their CD4 count is good; by 7 months it is normal. Given the compromised health status of most of these patients pre-transplant, these results are quite good. Boulad plans



*Farid Boulad, MD*

to use a new method for T-cell depletion in the near future to further decrease the risk of GVHD. ♦



## Cancer Epidemiology in Fanconi Anemia

Blanche Alter, MD, MPH, National Cancer Institute, reminded families that FA patients have very high risks of cancer. The most frequent types of cancer are leukemia, liver tumors (most, but not all, in patients who received androgens), head and neck squamous cell carcinomas (HNSCC), esophageal cancer, brain, and gynecologic cancer (vulvar and cervical). Alter compared her results from North America with those of the German cohort (kindly provided by Dr. Wolfram Ebell), and found the overall risk of any cancer in FA is about 50 times that in the comparable general population. Leukemia was >800-fold, HNSCC 100–700-fold, esophageal cancer 2000–6000-fold, and vulvar cancer 2000–4000-fold. Analyzing the very first adverse event (using a method called “competing risks”) gave very similar results in the two groups: the cumulative risk of severe bone marrow failure, leading to death or stem cell transplant, was around 50% by age 20; of leukemia, 10% by age 25 (although there were a few later onset cases in the German group); and of solid tumors, 29% by age 50. Thus, study of an independent group of FA patients validates the results previously found in the North American group.

Alter evaluated several features that might correlate with the development of cancer in FA, including physical appearance, genetics, stem cell transplant, and the role of human papilloma virus (HPV). Other factors such as immunodeficiency and use of tobacco and alcohol could play a role, but specific data on FA patients are not available.

One FA complementation group stands out in its severity, *i.e.* FANCD1/BRCA2. Patients in this small group (total of 27 reported) were far more likely to have multiple

specific birth defects (vertebral anomalies, anal atresia, cardiac anomalies, tracheo-esophageal fistula, esophageal atresia, radial limb anomalies, renal anomalies, and hydrocephalus) than FA patients in other complementation groups. Leukemia, brain tumors, and Wilms tumor (kidney) occurred in almost all of these patients, and the cumulative incidence of any malignancy was 97% by age 6.

In a study of patients who received a bone marrow transplant in Paris, Alter found a four-fold increased risk of HNSCC, and acceleration of its appearance by 16 years; in the Paris study, all of the patients with an HNSCC had previous chronic graft-versus-host disease. Researchers in Germany also note that cancers appear earlier and more frequently in transplanted than in non-transplanted FA patients.

Evidence for the role of HPV in FA oral cancer is still controversial, since one study found a high association and another did not find any.

## Fanconi Anemia 101

Blanche Alter, MD, MPH, National Cancer Institute, gave a very helpful overview of FA to families at our July Family Meeting. She informed us that FA is the most frequent of the rare inherited bone marrow failure syndromes, with more than 1,300 cases reported in the literature. FA is mostly inherited as an autosomal recessive disease (each parent is a carrier, with one normal and one abnormal FA gene; the FA patient receives one abnormal FA gene from each parent), although one rare type, FA-B, is X-linked and found only in boys. The average age at diagnosis is 9, but occasionally adults have been first identified in their 50's. Birth defects are reported in around 75% of known patients,



*Blanche Alter, MD, MPH*

Investigators are currently studying this difference. An HPV vaccine is now FDA approved. A collaborative research study, coordinated by the NCI, will open soon to evaluate the safety and effectiveness of this vaccine in FA patients. (See NCI Plans Study, page 1, for information on this study.) ♦

but may be overestimated, since individuals who do not have birth defects may not be diagnosed. Laboratory tests reveal varying degrees of low blood counts (pancytopenia), large red cells (macrocytosis), and increased fetal hemoglobin (Hb F).

There are at least 12 FA genes, belonging to complementation groups A, B, C, D1/BRCA2, D2, E, F, G, I, J/BRIP1, L, and M; all except I have been cloned. The protein products of A, B, C, E, F, G, L and M respond to DNA damage by forming a complex, which permits a ubiquitin molecule to be added to the D2 protein, which then interacts with I, D1 and J and other proteins involved in DNA repair. The classi-

*continued on page 11*

## Results of Transplant Trials at University of Minnesota; Future Directions Discussed

John Wagner, MD, University of Minnesota, presented an overview of the transplant studies performed at his center since 1995. He also described on-going and future trials and expanded services for transplant survivors to be implemented at a later date.

Minnesota has conducted three trials for patients with alternate donors. The first trial occurred prior to the use of fludarabine. Thirteen of 23 patients (31%, adjusted for time post-transplant) survive. The second trial began in 1999 and introduced the use of fludarabine to decrease graft rejection. Thirty-one of 44 patients survive (58%). The third trial added thymic shielding to the protocol to hasten immune recovery and reduce post-transplant infection. Sixteen of 18 patients survive (71%). Each new effort has produced significantly improved outcomes.

In addition to the above trials, five high-risk patients (four with active leukemia) were treated with busulfan instead of irradiation. Three of five survive.

Since 2002, sixteen FA patients have undergone BMT with a matched sibling donor. No patient received irradiation. All sixteen patients survive; none has had graft-versus-host disease. One patient developed pneumonia; three had a cytomegalovirus reactivation. These sibling transplant results continue to be outstanding.

Wagner emphasized the relationship of infection to survival. Patients who begin transplant with fungal or gram-negative infections have a far lower survival rate. This issue is "overwhelmingly important; transplant needs to occur before the patient develops such infections," said Dr. Wagner.

Wagner has now begun another

trial for alternate donor transplants. His transplant group has de-escalated the dose of irradiation from 450 rads to 300. As of September 25, 2006, he had treated seven patients with this protocol and all are alive. If this effort is successful in 10 patients, he will de-escalate to 150 rads, then to no irradiation.

This fall, Wagner plans to infuse patients with a large number of adult stem cells at the time of transplant, hoping to decrease toxicity and regenerate different tissues in the patient's body more rapidly. Delivered to laboratory mice, these cells engraft in the gut and produce normal human gut cells.

Future efforts at the Minnesota center include development of a post-transplant clinic to improve



*John Wagner, MD*

counseling and intervention. We applaud Wagner's innovation and persistence as he continues to find better ways to manage this difficult disease. ♦

### Head and Neck Cancer in FA Patients

*continued from page 3*

#### How can head and neck cancer be prevented?

- **FA patients should abstain from tobacco!**
- **Second-hand smoke is just as bad as smoking** and should be avoided at home, school and at all gatherings.
- **Alcohol alone can cause these cancers.** Abstinence is best. Patients could perhaps consider one glass of wine a month, two at the very most.
- **Maintain good dental hygiene.** Avoid mouthwashes that contain alcohol (the brand, Tom's of Maine, is fine). Visit the dentist regularly. Keep the mouth clean.
- **Aggressive monitoring and routine screening is important.** Screening should begin at the age of 10. An experienced professional must examine the head and neck, and conduct a flexible fiber optic examination. Repeat annually. If white patches are present, screening must be done every 2 to 3 months. Patients or parents should **not** do this screening.
- **If cancer is found, surgery should be the mainstay of treatment, and should be done at a very specialized center by a head and neck cancer specialist.** It's worth making this effort. Your first shot at surgery is your best shot. Follow-up every 2-3 months after surgery.
- **Even more than surgery, radiation and chemotherapy must be done at an experienced center with experts who understand FA.** Some FA patients have died because of the complications of irradiation or chemotherapy. ♦

## Chromosomal Abnormality on 3q Predicts Poor Outcome: Transplant Advised

Holger Tönnies, PhD, Institute of Human Genetics, Berlin, reinforced what he and Dr. Heidemarie Neitzel from the same center have told us for the last few years: a chromosomal imbalance on the long arm of chromosome 3 (3q26q29) is an extremely worrisome finding. An initial 2002 study of 53 FA patients identified 18 with a 3q abnormality and 35 without. As of June 2004, 11 patients with this abnormality were alive; 33 of 35 without this clone were living. Thirteen of the 18 patients with this clone had developed myelodysplastic syndrome (MDS) and leukemia (AML); only one without this finding had MDS or AML.

The Berlin group expanded its study to include 22 patients with the 3q abnormality. Today seven of 22 survive. Seventeen of 22 were transplanted; only seven of this cohort survived the transplant. All five patients without transplant died.

During those intervening months, the clone on 3q expanded rapidly within the marrow. After the additional finding of monosomy 7, affected cells with both clones increased very rapidly.

Tönnies drew the following conclusions:

- An abnormal chromosomal imbalance on 3q never went away but actually expanded rapidly in all 22 patients studied.
- Abnormal chromosomes can be detected by conventional cytogenetics, but one needs special techniques such as FISH (fluorescent *in situ* hybridization) or comparative genomic hybridization (CGH) to identify the origin and size of the chromosomal material (in this case, 3q).
- Chromosome 3 and 7 abnormalities can be found and followed by frequently studying peripheral blood cells using interphase FISH. However, this should not replace periodic bone marrow cytogenetics.
- This 3q clone is usually the first adverse event, and is followed by other clones, often monosomy 7.
- These abnormal clones lead to MDS/AML in a high percentage of FA patients.
- Patients with these clones are at high risk for fatal infections.
- These patients can have rising, dropping or stable blood counts.
- This clone is found in all complementation groups and affects the same percentage of patients.
- If up to four cells out of 100 analyzed by FISH are found to have this abnormal clone, results can be considered normal.
- Patients with this abnormality should go to transplant without waiting for a second chromosomal abnormality to appear. ♦



*Holger Tönnies, PhD*



*Margy MacMillan, MD*

## Post-Transplant Issues in FA Patients

Now that so many FA patients are surviving transplant, we need to look at post-transplant issues. Ten to fifteen years ago, there weren't enough FA patients to study, according to Margy MacMillan, MD, University of Minnesota Children's Hospital. MacMillan reviewed some of the major complications encountered by FA patients following a transplant.

- Acute graft-versus-host disease (GVHD) usually begins within the first three months following transplant, and can appear as a fever, red skin rash, problems of the gut such as nausea and diarrhea, or liver problems. Since the use of T-cell depletion, many fewer patients get acute GVHD. The incidence with HLA matched sibling donor recipients who have received no irradiation is zero. Patients receiving alternate donor transplants have a 20-25% likelihood of this complication. Treatment involves further suppression of the immune system in patients already immunocompromised.

*continued on page 19*



## On-Going Studies at Cincinnati Children's Hospital

Frank Smith, MD, described new treatment approaches currently in clinical trials at Cincinnati Children's Hospital Medical Center. One involves a new drug, Etanercept, which blocks tumor necrosis factor, believed to be implicated in bone marrow failure in FA patients. The first study will examine the toxicity of this drug. Cincinnati plans to enroll 10 patients in this study in cohorts of three. Two patients have enrolled to date.

Patients experiencing more advanced bone marrow failure can be part of a second study of oxandrolone. This androgen may be less masculinizing than oxymetholone. Eight patients have enrolled to date. Five responded positively to this drug with improvement in blood counts; none experienced virilization. Two did not respond; one was removed

from study early and proceeded to transplant.

In a third study, three patients in FA-A have been enrolled in a gene therapy trial in Cincinnati. One was taken off study when frozen marrow cells failed to grow adequately. Two received their own fresh marrow, transfected with the normal *FANCA* gene. In one patient these new cells never appeared; in the second, the corrected cells appeared but the effect was transient.

Smith noted that three genetic diseases can now be cured with gene therapy. This approach has not yet been successful in FA because our patients have too few stem cells in their marrow, even when their blood counts are normal. Cincinnati will continue efforts to increase the number of stem cells available for on-going gene therapy trials. Dr. Smith



*Frank Smith, MD*

advises that patients who wish to have marrow cells collected and harvested pending future trials should do so early in the course of their disease, when marrow stem cells are more plentiful. ♦

## Researcher Presents FA Treatment Overview

Akiko Shimamura, MD, PhD, Children's Hospital, Boston, presented a helpful overview of treatment issues at our July Family Meeting. She first noted the huge range in degree of bone marrow failure among FA patients. Some patients experience mild to moderate failure for very many years, while others experience severely declining counts at early ages. Prediction for any one patient can be difficult.

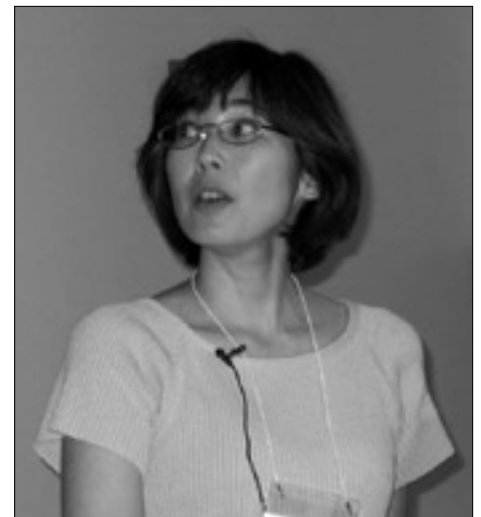
One must first assess the stability of blood counts. Either rising or falling counts can signal a problem. It is also crucial to determine if an abnormal cytogenetic clone exists in the bone marrow. Some clones can come and go or wax and wane; others are more worrisome and may signal a pre-malignant or malignant condition. FA patients are at high risk for developing myelodysplastic syndrome (MDS) and leukemia. Shi-

mamura noted that the bone marrow of FA patients often looks abnormal, but this is not necessarily a sign of MDS or leukemia. A plan for intervention should always be in place.

Shimamura discussed the pros and cons of various treatment modalities, and how to monitor a patient's marrow as problems evolve. She noted that there are no randomized clinical trials comparing one treatment modality with another, so decisions must be made based on the risks versus the benefits of each option for each individual patient.

A stem cell transplant cures problems of the bone marrow, but not other issues related to FA. The up-front risks are high, and include death, chronic graft-versus-host disease and the possibility that transplants might increase the risk of solid tumors.

Androgens increase blood counts



*Akiko Shimamura, MD, PhD*

in approximately 50% of FA patients, with red cells responding first and most vigorously. Androgens are not a cure; their effectiveness often diminishes or ceases with time. They can be masculinizing (although some androgens appear much less so than others). They are associated with liver

*continued on page 10*

## IVF/Preimplantation Genetic Diagnosis

Renee Genovese, MS, Genetic Counselor, Reproductive Genetics Institute (RGI), Chicago, discussed Preimplantation Genetic Diagnosis (PGD) as an option for FA parents at the July FA Family Meeting. PGD makes it possible to diagnose genetic disease in fertilized eggs/embryos *before* a pregnancy occurs. This procedure can also be used to test for HLA antigens, thereby determining if a pregnancy might provide a matched sibling donor for a later transplant.

*In Vitro* Fertilization (IVF) is done in conjunction with PGD. Parents can opt to travel to Chicago for the entire procedure, work with a local IVF facility in addition to the Reproductive Genetics Institute in Chicago, or complete the entire procedure at a local center, with experts from RGI traveling to the local center to perform testing of embryos.

Fertile couples go to a clinic dealing with infertility problems. The mother takes hormones, which stimulate her ovaries to produce multiple eggs. The eggs are retrieved, fertilized with the husband's sperm, and allowed to develop in a test tube. One cell from each embryo (called a blastomere) is removed on the third day following egg retrieval. This cell is tested for absence of the genetic disease and HLA antigens, if requested. When both parents are FA carriers, there are 3 chances in 4 that a blastomere will be free from FA, and 3 chances in 16 that any one blastomere will be free from FA *and* will be an HLA-matched donor for an FA sibling. Removal of one blastomere cell from the embryo carries a less than 1% risk that the embryo will not develop.

Genovese stated that RGI takes great care to maximize the possibility that only healthy embryos are returned to the mother. In addition

to testing one cell from the blastomere, cells called "polar bodies" from the egg are studied for "linked markers" that give assurance that the embryo(s) selected for transfer will be healthy. While no center will promise 100% accuracy, RGI quotes 95-98% accuracy.

RGI has performed PGD for 128 different genetic conditions. Twelve FA families have worked with RGI to achieve a healthy pregnancy. These families experienced a combined total of 30 IVF cycles. There were embryo transfers in 19 of the 30 cycles, some including more than one embryo (29 embryos were transferred). Of the 19 cycles, there were 7 pregnancies, two of which resulted in a miscarriage. Six healthy babies have been born (including one set of twins). **In this very small sample of FA parents, 30 IVF cycles resulted in five successful pregnancies, defined as the birth of a healthy baby (~17% per cycle). Five families out of 12 were successful. Much depends on age, response to medication, fertility characteristics of each couple...and pure luck.**

Preimplantation Genetic Diagnosis is expensive, and insurance has not assumed the cost in 90-95% of cases. After an initial set-up fee (\$3,500-\$5,000 if only the health of the embryo is considered; an additional \$4,000 if the study will include HLA testing), the cost is approximately \$20,000 for each reproductive cycle.

### **Renee Genovese can be reached at:**

Reproductive Genetics Institute  
2825 N. Halsted  
Chicago, IL 60657  
Phone: 773-868-2166  
Fax: 773-871-5221  
Email: rgi@flash.net  
www.reproductivegenetics.com



Renee Genovese, MS

**Editors' Note:** Families contemplating PGD should be aware of substantial issues well beyond the statistical chances that it will result in the birth of a healthy baby. A thoughtful parent panel at Camp Sunshine explored the perspectives and experiences of those who had undergone this process. The discussion revealed significant emotional burdens, unverified health concerns for the mother, and heavy personal financial commitments. In one case (not at RGI), misdiagnosis or laboratory error led to the birth of affected FA twins.

Parents who are contemplating this procedure may wish to contact the Fanconi Anemia Research Fund and be put in contact with parents who have had direct experience with PGD. ♦

### **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.



## Gynecological and Reproductive Issues Facing FA Female Patients

Female FA patients face a number of special gynecological issues that require vigilance and careful management, according to Pamela Stratton, MD, National Institutes of Health (NIH). They experience late onset of menarche, irregular periods and early menopause, and thus usually are fertile just between the ages of 15 and 30. Some, especially those with low platelet counts, experience excessive bleeding, which can often be managed with birth control pills.

Approximately 15% to 29% of FA women of childbearing age have achieved pregnancies. These pregnancies have been complicated by a higher rate of pre-eclampsia, miscarriage, or a worsening hematological picture, but have resulted in healthy offspring. A maternal fetal medicine specialist, in conjunction with a hematologist, should manage these pregnancies. Pregnancy after stem cell

transplant has occurred but is rare.

FA women also have a high rate of gynecological cancers, including cancer of the vulva, cervix, vagina or anus. Yearly gynecological exams, including careful examination of these areas, are crucial. Colposcopy (examination with a special light and magnification) is extremely helpful; biopsy is recommended if tissues appear suspicious.

NIH is also beginning a study of the newly FDA-approved HPV vaccine. In recent trials, this vaccine was found to be safe and effective in preventing cervical cancer and genital warts in the general population, and may be useful in preventing cervical, vaginal and vulvar cancer in women with FA. See *NCI Plans Study*, page 1, for information on enrollment in this study.

Post-menopausal FA women should be monitored for osteoporosis.



*Pam Stratton, MD*

Women under 50 should consider hormone replacement therapy (estrogen and progestin). Yearly mammograms may be done by MRI rather than x-ray mammography to eliminate the additional cancer risk of irradiation. ♦

## Endocrine Therapy and Growth: Can FA Patients be Helped to Grow Taller?

Susan Rose, MD, Cincinnati Children's Hospital Medical Center (CCHMC), spoke of the possible relationship between endocrine deficiencies of FA patients and their growth, and suggested new therapies that might increase height in short FA patients.

CCHMC performed an endocrine evaluation of 53 children with FA. Thirty-five (66%) were short for their age, or below the 5% percentile for height. Most of the patients studied had abnormal thyroid tests (80%). Many of these had mild thyroid deficiencies.

Rose described an on-going study at her center to determine if FA children with mildly low thyroid hormone would grow better on thyroid treatment. Seven patients

are enrolled. Patients are treated in random order with thyroid hormone and a placebo, seven months each.

Three patients have completed the trial. Those three grew better on thyroid hormone than on the placebo. Rose hopes to enroll an additional 11 FA children, ages 3 to 12, in this study. Travel to Cincinnati is not required.

Glucose and insulin are also abnormal in FA children. Of 33 FA patients who took the oral glucose tolerance test, 28 (or 85%) had abnormal findings (fasting values were almost always normal). Hyperglycemia (high blood sugar) was found in 85% of children; impaired glucose tolerance in 47% and overt diabetes in 41%. Most FA children have some resistance to insulin. Since



*Susan Rose, MD*

growth hormone and insulin are linked, this deficiency may reduce the ability to grow normally.

Since most children with FA have insulin resistance, Rose is planning

*continued on page 11*

## Treatable Hearing Loss is Common in FA Patients

Earlier medical articles under-reported the incidence of hearing loss in FA patients, according to Jeffrey Kim, MD, National Institutes on Deafness and Other Communication Disorders, National Institutes of Health (NIH). One article suggested that only 11% of FA patients suffer hearing loss. The NIH is now conducting a multi-disciplinary study of FA patients, which shows that this problem is far more prevalent in FA patients than previously believed.

Kim stated that 20 patients were initially in the NIH study. Four were excluded because of ear surgeries. Physicians evaluated 27 ears from 16 patients from 2003 to 2005. All patients received a comprehensive ear exam, including audiogram,

evaluation of middle ear function, and an imaging study (computer tomography).

Of the 27 ears studied, 53% had hearing loss. Most were mild (41%), but 12% had more severe hearing loss. The most common problem was conductive hearing loss. Sixty-three percent of the ears showed middle ear abnormalities. Fifty-six percent had bony plates on the eardrum; 33% had grossly small eardrums. No one knows why these problems exist, but these malformations are congenital and probably result from abnormal embryonic development. A long history of chronic ear infections

and IV antibiotics can also worsen a child's capacity to hear.

Children with mild to moderate conductive hearing loss experience difficulty understanding when there is background noise, have difficulty hearing certain sounds, and have trouble with pronunciation. When not corrected, these issues can affect language development and performance at school or work. For all the FA-affected individuals, Kim highly recommends early detection and intervention for hearing loss. Options ranging from hearing aids and FM based listening devices to ear surgery can greatly improve hearing. ♦

### Researcher Presents FA Treatment Overview

*continued from page 7*

tumors (mostly benign). They often produce a growth spurt followed by growth arrest.

Cytokines, usually G-CSF or GM-CSF, elevate the white blood count and are sometimes recommended for persistent, recurrent or serious infections. To date, there are no studies of FA patients indicating a causal relationship between cytokine therapy and leukemia.

Timing of a bone marrow transplant is important. Risks increase with older age, the onset of leukemia and the declining health of the patient. Transplant should be considered if a patient has a matched sibling donor and moderate marrow failure is persistent. An unrelated donor transplant should be considered when severe marrow failure is persistent. Shimamura noted that some patients will not progress to severe marrow failure, and others may not wish to consider a transplant. ♦

## Your FA Research Dollars at Work in 2006

From January through September 2006, the Fanconi Anemia Research Fund awarded \$349,083 in research grants to the following projects:

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

**Title:** *Technology Assessment for Oral Cancer Early Detection*

**Amount:** \$21,776

## German Support Group Honored

Researchers and treating physicians from the Universities of Berlin, Würzburg, and Düsseldorf honored the 15th anniversary of the German Support Group, Deutsche Fanconi Anämie Hilfe e.V. at a scientific meeting held in Germany (the Schroeder-Kurth 2005 Symposium). The German group was praised for its highly successful work in supporting Fanconi anemia research, working in close collaboration with the research community in Europe, and for providing support, inspiration, and motivation to researchers over the past 15 years.

Deutsche Fanconi-Anämie-Hilfe e.V. began its work in 1988, and incorporated as a non-profit organization in October 1990. German families raised money and began giving financial support to research-

ers in 1995. To date, they have given grants totaling \$530,000 to four different laboratories: two in Berlin (Heidemarie Neitzel/Holger Tönies and Martin Digweed), the lab of Detlev Schindler in Würzburg, and the laboratory of Hans Joenje in Amsterdam. The hard work of many families supported efforts to clone FA genes, understand the importance of abnormal clones, and study the function and interaction of FA proteins.

The Schroeder-Kurth Symposium also honored the work of Ralf Dietrich, FA parent. Dietrich has provided family support services to FA families; has worked tirelessly to raise funds; and has transported countless FA tissue samples to FA laboratories to enable crucial work to proceed. We are all enormously grateful for Ralf's efforts! ♦

## Endocrine Therapy and Growth

*continued from page 9*

a study using metformin, which improves insulin sensitivity. With high blood sugar, calories are lost in the urine. Rose strongly advises FA patients to eat foods with a low glycemic index, which measures how fast a food raises blood sugar, and to avoid foods with a high glycemic index. Foods which are NOT advised include:

- White carbohydrates (bread, bagels, rice, potatoes)
- High sugar foods (sodas, juice, sweet cereal, pop tarts, jelly beans, lifesavers, etc.)
- Corn chips, pretzels, rice cakes, etc.

### Preferable foods include:

- Nuts, peanut butter, beans, whole grain bread, brown rice, brown pasta

- Fruits, vegetables
- Cheese, milk, meats/poultry
- Candy that includes nuts to slow digestion, such as peanut M&Ms and Snickers

Rose prefers treating FA patients for thyroid and insulin sensitivity problems to improve height before turning to growth hormone (GH), given the small risk that GH might increase cancer risk in cancer-prone patients. She would, however, use GH for FA children who test very deficient for growth hormone.

Rose noted that FA adults and post-transplant patients still have thyroid abnormalities and should be evaluated.

To learn more about Rose's thyroid treatment study, eligibility requirements, and to enroll in this study, contact Samantha Blum, RN: 513-636-4744  
samantha.blum@cchmc.org ♦



*Ralf Dietrich*

## Fanconi Anemia 101

*continued from page 4*

cal clinical diagnostic test for FA is to culture blood lymphocytes with a DNA-crosslinking agent such as diepoxybutane (DEB) or mitomycin C (MMC) and then look for damage to chromosomes within the cells.

Somatic mosaicism is the term used to describe the situation in which the patient has germline mutations in FA in all cells, but a molecular event occurs by which one of the FA genes in a bone marrow stem cell has been repaired. This is an "acquired," or "somatic" event. Because the stem cell is now corrected, the blood cells which develop from it are normal, and the patient may not have decreased blood counts. In this situation, diagnosis of FA may require obtaining a skin biopsy, since skin cells will not have been corrected.

The diagnosis of FA may be missed by many types of specialists, including hand surgeons, geneticists, endocrinologists, gastroenterologists, hematologists, and oncologists. We hope this will change with increased awareness. ♦



## Attending the Annual FA Family Meeting for the First Time

by Wendy Delzell

My son, David, and I attended the Family Meeting for the first time this year. It was the first time we had ever met anyone else with Fanconi anemia, and I'm so glad we were able to go!

David is seven years old and was diagnosed with FA when he was five. His short stature and four-fingered hand are the only signs of FA that most people notice. I thank God that he has been fairly healthy! He knows a lot about FA without realizing the full severity of this disease. It is because of this that I wondered if we should go to Maine. I didn't know how hard it would hit him to see other kids who have more difficulties than he has. I didn't know if there would be much talk that would scare him about treatments he still faces in

the future.

I needn't have worried. David loved camp! By the end of the first day, he was already making plans to go back next year. He had a blast! The activities were wonderful—pony rides, miniature golf, canoeing, etc.—but what he loved best was making new friends. He talks about them all the time—and it is talk about friends of his, not kids who have the same disease he has! Nothing about camp seemed to bother him at all. His counselor, Zach Blecher, made him feel like he was the most special kid there.

The meeting was great for me, too. First of all, I didn't have to worry about explaining anything about David to the people watching him—they already understood the disease!



David and Wendy Delzell

I didn't have to worry about his safety in the group—though I don't know the official ratio, there seemed to be one counselor for every child! I was so glad to attend the sessions where the doctors taught us. Much of it I

*continued on page 19*

## The Estep Family

by Debbie Estep

My son is Billy Joe Estep, Jr. (B.J.), now 4 years old. He was diagnosed with Fanconi anemia at 4 months. Through our many, many episodes of crying, praying, screaming, and begging, we fell madly in love with the most precious child anyone could hope for. He is truly a joy and a blessing to me, my husband and our daughter, Josi, age 10 and non-FA.

B.J. is a very loving, giggly, mischievous child. I feel that just being around him can change your life. He was 4 on May 14, 2006, and barely weighs 25 pounds. He has one tiny kidney, abnormal thumbs, and is small for his age. His counts are stable, other than the platelets which have fallen to 25,000. We most likely will begin androgens in the next few months and pray they will help.

We live in Kentucky and travel to Cincinnati Children's Hospital Medical Center for his care. I would like to thank their staff, Robin Mueller, for everything. We could not make it without her. Also, a big thank you to the child life educator there, because she made a horrible experience easier for our family! I read all e-mails on the FARF's e-mail group for parents, even though I don't respond, and I think of all of the families often. ♦



B. J. Estep

## From Camper to Counselor and Beyond

by Zack Blecher

I was four years old when I was diagnosed with Fanconi anemia, and I underwent a bone marrow transplant in Paris, France soon after the diagnosis. My older brother, Aaron, was my donor. Ever since my transplant, I have attended various family meetings—from Florida to Maine to Wisconsin and then back to Maine. All have been very rewarding experiences—all unique, but essentially the same.

As a camper I have enjoyed memories that will last me a lifetime. As a child with Fanconi, feeling strangely different from my peers at school, Camp was a place where I could truly be myself. The unspoken bond I shared with other Fanconi children is something I can hardly describe. It was always easy to forget that I was different when surrounded by others who had my own disease. The camaraderie between fellow campers was amazing, and it allowed me to grow into the person that I am today.

At Camp I never needed to explain myself to another, for they already understood. I never had to worry if I would be accepted. That fear never reared its ugly head at Camp.

Yet, as I grew older, I began to understand that I was at a crossroad. Two summers ago, I came to the realization that I could no longer be a camper; yet, I did not want to miss an event that had become central to my life, so I became a counselor at Camp Sunshine. I was given many memories that first summer, which I will never forget. I was unable to attend Camp in 2005 due to scheduling conflicts. Needless to say, I was devastated. It's true what they say about not knowing what you have until it's gone.

Fortunately, I was able to attend Camp in July 2006, again as a counselor, and I had by far the most fulfilling Camp experience of my life. I had an amazing batch of kids. I

particularly remember a few exchanges when children with FA found out that I shared their disease. First, it seemed that awe crept into their faces, being that most Fanconi campers are young children. Then, I could see a sense of reward and comfort, as they realized that an adult could be a Fanconi patient. As much as I believe I helped the children to feel secure in their future, I know, beyond a shadow of a doubt, that I helped their parents who attended Camp. I truly hope that my presence was a blessing to any parent who is dealing with the hardships of Fanconi. As long as I am able, I will attend Camp sessions. I am planning to attend this coming summer as an adult learner.

I would also like to urge any Fanconi patient who has ever had reservations about attending Camp to attend at least once. Believe me, there is no other place or experience like Camp. ♦



Zach (far right, second row) and members of his group at Camp Sunshine.

# From Argentina to Camp Sunshine!

by *Belen Trovato*



*Belen Trovato*

In spite of feeling a bit scared, I decided to attend Camp Sunshine for the first time last July. I imagined that would be a very tough experience for me, and I was not wrong.

I must say that there were several things that touched me very deeply: meeting other families in a situation similar to mine, experiencing the great job done by the volunteers, and benefiting from the supportive attitude of the members of the Fund.

My daughters (Dominique, 8 years, FA, and Nicole, 11 years, non-FA) did not come, but I enjoyed very much watching the other children having fun in all the activities organized.

Regarding the lecture presentations: I attended all of them and, in all cases, I found the information provided to be very clear and useful. I also felt that the researchers are working hard to understand this rare disease.

In a few words, I can say that Camp Sunshine was a valuable experience, full of information and great people, who are willing to help and support others in a difficult situation. ♦

## Attending Camp for the First time: Perspectives from the Hanna Family

by *John Hanna*

I want to let everyone know that my family and I had a wonderful time at Camp Sunshine. Going into the experience, I had a lot of trepidation because I did not know what to expect. I was worried that it would be too much for my wife, Racquel, to handle, and I was worried that my kids, Katelin and Kelly (especially Katelin), wouldn't really know what to think of everyone. As it turned out, both of my kids had an absolute blast at Camp. Katelin, who is in school, is already asking if she can attend next year, even if she has to miss some school. And, she hates to miss school!

As for me, I can truly say that I got a lot out of Camp. The medical lectures were all very, very good, although sometimes difficult to listen to because of the serious nature of FA. Being the elder of the FA adults at Camp at age 34 was an experience in itself. It really drove home to me how lucky I have been thus far with FA. I felt a certain responsibility to

the other FA adults, as well as a responsibility to the FA kids and to their parents. One of my big reasons for going to Camp was to let others see that there are other FA adults out there living fairly normal lives and to provide a sense of hope. I sincerely hope I was able to do that.

Personally, it was very important for me to meet and socialize with other FA patients, since this was the first time I'd ever met another FA patient. Growing up with FA, I felt very isolated since no one I knew had FA or knew anything about it. For the most part, that included the doctors! I was able to come away from Camp Sunshine with a better understanding of FA and a real sense of community, in the most wonderful sense of the word. I looked at some of the kids there, and I was in awe of them. They are so beautiful and happy and nonchalant about FA, and they're not going to let it affect their attitude. It was inspiring.



*Hanna family*

Camp Sunshine also brought my wife and me even closer together. The group sessions with Nancy Cincotta were wonderful, and it felt good to be among a group of people with whom I could feel free to open up and share the feelings and emotions that I only occasionally share with my wife, out of fear that I'm burdening her.

I just want to thank FARF and Camp Sunshine for a wonderful time. The volunteers at Camp were great! ♦



# Making Choices: Living with Fanconi Anemia

by Brenda Sprague

When Chelsea was first diagnosed with Fanconi anemia in 2003, it didn't sound that bad on the surface. Then reality set in—my daughter could die from this FA thing!! Then came the madness, the confusion, the anger, and hopelessness. As a mother who has always been strong and on top of things, I had allowed myself to become controlled by this uninvited fixture in our lives—Fanconi anemia. I am not sure of the exact moment when I woke up from my selfish and depressed attitude and realized that we had choices!! Chelsea would have FA, no matter how much I fought the fact. I stopped asking “why Chelsea?” and “why me?” and came to terms with the fact that FA is not my fault nor would the outcome for my daughter be my fault. I began to take baby steps to re-build my confidence.



Chelsea Sprague

## **I'd like to share a few things that are now a part of my life and of Chelsea's:**

- Chelsea and I challenge each other to find “Something Good” out of what we perceive to be “Bad.”
- We have learned to accept that others don't understand FA.
- We ask questions and search for more knowledge about the disease.
- If my instincts tell me that something is not right—something is probably not right!!
- When I am frustrated, I often say to myself, “Turn the Page and Get Over It.”
- My employer understands that Chelsea is my priority.
- I allow myself to have something to look forward to daily: a hot bubble bath or a lighted candle.
- I schedule family time first, then appointments.

## **Chelsea, who is now seventeen, has grown to become her own advocate:**

- She asks to have the exam room door opened if there is a lengthy wait.
- She asks doctors and nurses how THEIR day is going!!
- She loves to share information about FA and is not afraid to share with a stranger how unique she is!!
- Chelsea asks physicians to speak to HER. After all, SHE is the patient.
- In many states, the age of consent for medical purposes is as young as 14 or 15, which doesn't mean that your child should be making life decisions but, medically, they have choices. Chelsea chooses to donate extra marrow and blood for scientific study.
- When a prescription is running low, Chelsea calls the pharmacy and lets me know when to pick up the prescription.
- Using my Day Planner, Chelsea has rescheduled a few appointments for me!!
- Chelsea is on an IEP (Individual Education Plan) in her school district. She chooses the classes that she can keep up with physically and mentally.

I am still coming to terms with our permanent uninvited guest, Fanconi anemia. I will not pretend that everything is easy, but Chelsea and I have set in place a forward motion with confidence and strength that does not allow negative energy to creep in. I often ask myself this question: “In the course of a lifetime, does this really matter?” With a teenager in the house, wanting hot pink hair, one simple question puts so many things in perspective. ♦

# The 2006 Annual FA Family Meeting

*continued from page 1*

Minnesota School of Medicine; Farid Boulad and Bhuvanesh Singh from Memorial Sloan-Kettering Cancer Institute; Frank Smith and Susan Rose from Cincinnati Children's Hospital Medical School; Holger Tönnies from Charité Hospital, Berlin; Blanche Alter and Pam Stratton from the National Institutes of Health; Jeffrey Kim from George Washington University School of Medicine; and Renee Genovese from Reproductive Genetics Institute, Chicago.

As usual, Camp Sunshine outdid itself. Nancy Cincotta helped parents share methods of coping with FA in her excellent support groups, and Andy Eichenfield, the Camp doctor, kept everyone well. Camp Sunshine personnel provided the kids—from infants to teens—with one very enjoyable recreational activity after another! The Camp's cooks produced excellent meals, including a superb turkey dinner at the banquet for parents on Saturday night. Fortunately, karaoke was available after dinner, allowing many talented FA parents to entertain their colleagues. They were so good that Farid Boulad could not resist taking the stage to outshine them, to the delight of all!



*James and Ashlynn Nicholson*



*Left to right: FA young adults Chris Byrd, Amy Frohnmayer, Zach Blecher and Delia Horrigan*

This was Suzanne Planck's last Family Meeting, as she is leaving her position as Family Support Coordinator after five years to spend more time with her family. On behalf of the FA Research Fund, Dave Frohnmayer presented her with a commemorative vase, FA families presented her with a cake, and FA kids joined Suzanne on the stage to wish her well. We shall all miss her!

At the closing celebration, Dave presented Camp Sunshine co-founder Anna Gould with a \$15,000 check from the Fund in profound appreciation of the exceptional, irreplaceable contribution made each year by Camp Sunshine to FA families. ♦



*Sam Boudreau making a wish boat.*

“Love the facilities! Perfect location!”

“Great work! Really enjoyed camp!”

“Camp is great!”

“This week was very informational.  
Thank you very much.”

“Camp is perfect.”

“A great facility!”



*Sarah Petersen having a ball with a Camp Sunshine volunteer.*



*Carly Ross and Julia Pless at the Masquerade Ball.*



## Wisdom From Our E-Mail Support Group

- **John Hanna, a 34-year-old FA patient**, writes about his personal experience with the surgical procedure that moves the forefinger into the thumb position. “I had the pollicization done on my left hand when I was 11 months old. The surgery went very well and was completely successful. I now have the use of a makeshift thumb. I have feeling in it, I can write with it and I can hold cups or glasses with it. It’s the next best thing to having a real thumb. I had the procedure done on one hand and not the other. I can tell you that I get much more frustrated with the hand that did not have the surgery than the one that did. Having this ‘thumb’ has been an advantage and a blessing in many ways.”
- **John Hanna** also responded to concerns of parents whose kids are teased because they are short or have physical anomalies. While growing up, Hanna found ridicule “fairly normal...there was teasing and bullying and the usual childhood antics that go on. I had friends but we were basically a group of outcasts. Sometimes it really got to me. And that’s normal.” At age 8 he got involved in martial arts, where he excelled and gained self-confidence. Most of all, Hanna wants parents to “do whatever it takes to let our kids know that it’s ok to look different or to be short. Parents know this, but I want to reiterate how important it is. My folks always gave me positive reinforcement, and it really helped me to keep a positive self-image.”
- **Charisse Howard-Jones, 28, FA patient, wife and mother**, responded to parents concerned that their FA teens might be smoking or drinking. Charisse writes that she has never touched alcohol or smoked cigarettes. Her parents were never drinkers or smokers and, “because they never did these things, I found it a lot easier to say ‘no’ to other kids who would offer them to me. Back then I didn’t even know that these things were dangerous to FA patients. I followed my parents’ example and never had any desire to drink or smoke. The example parents give has a tremendous impact.”
- **Blanche Alter, MD, MPH, National Institutes of Health**, responded to questions about overall FA patient survival, not including transplanted FA patients. She writes: “Analysis of FA case reports from the recent medical literature suggests that the ‘median survival’ is around 30 years of age. That means that half of the FA patients reported in the last decade lived or are still living at more than 30 years of age.” Alter stated that literature data have many biases, including over-reporting of younger, more complicated cases and under-reporting of adults who have never been diagnosed as having FA, or never reported in the literature.

### NCI Plans Study of New HPV Vaccine

*continued from page 2*

receive vaccine at no charge, administered at entry, 2 and 6 months after enrollment in the study. Blood and DNA samples will be obtained for HPV screening and antibody titer responses at entry and at months 7, 12, and yearly thereafter for 3 years. For this cohort, the collaborative sites will administer the vaccine and collect appropriate samples.

Cohort 2: FA patients who have already received all three doses of

vaccine through their local physicians or FA centers. They will need to enroll in the NCI study within 4 weeks of their last vaccine dose to have month 7 titers as “baseline” (reflecting immune response after completion of 3 doses of the vaccine). Patients will be followed for immune response from that point forward, with antibody titers at 7 months, 12 months, and yearly thereafter for 3 years. FA patients who are proceeding with vaccination now should have their physicians document on medical record forms the exact vaccination dates. For this cohort, samples

obtained for HPV screening and antibody titer responses will be collected at the collaborating sites or through their local physician.

The NCI Institutional Review Board approval for this protocol is anticipated before the end of the 4<sup>th</sup> quarter of this year. Participating researchers at NIH are Blanche P. Alter, MD, MPH, Clinical Genetics Branch, Division of Cancer Epidemiology and Genetics, and Lauren V Wood, MD, Vaccine Branch. When the collaborative protocol is open, the FARF will inform all families through a special mailing. ♦

# In Loving Memory

Taylor Atkinson  
10/13/87 ~ 2/25/06

Chelsea Martin  
4/15/96 ~ 7/25/06

Robbie Williams  
12/18/97 ~ 6/24/06

Taliah Woods  
5/17/99 ~ 8/19/06



## Post-Transplant Issues in FA Patients

*continued from page 6*

- Chronic GVHD appears several months after transplant. It has an insidious onset: patients may experience dry eyes and mouth; poor lung or liver function; rashes; muscle wasting; poor appetite; weight loss or falling blood counts. Some patients experience only one of these complications. Only one-third of patients will be off treatment in two years; many are treated with immunosuppressive drugs for several years. Patients with chronic GVHD are prone to infections. The use of radiation in the preparative therapy and donor mismatch are factors associated with this difficult side effect of transplantation.
- FA patients are at risk of infections after transplant. Sores in the mouth and GI tract make it possible for infection to enter the blood stream. In addition, some FA patients come to transplant with serious fungal or bacterial infections. Occasionally these

conditions are not yet diagnosed, but blossom when the immune system is destroyed. Patients who have absolute neutrophil counts under 500 are especially prone to infections. Minnesota now gives all patients the anti-fungal drug Voriconazole before transplant to help eradicate any focus of fungal infection before transplant. This practice has effectively eliminated post-transplant fungal infections.

It takes at least one year post-transplant for reconstitution of the immune system. Patients need to be immunized again after one year, and everyone in the family should receive a flu shot.

MacMillan concluded that patients who do well after transplant do very well. Patients with chronic GVHD have more severe long-term complications. Fortunately, many more FA patients are surviving after receiving a transplant. Researchers at the University of Minnesota are designing studies to further identify later complications and quality of life issues in FA patients who have received a hematopoietic cell transplantation. ♦

## Attending the Annual FA Family Meeting for the First Time

*continued from page 12*

had heard, but it was a good refresher or I understood it better. Much of it was brand-new research, though, and it is a good feeling to know that I'm up-to-date on what is going on in the field. The best part of all, though, was meeting everyone. These are people going through the same things we are—some ahead or behind us, but all with the understanding of what it means to be in this select group. We shared hopes, fears, stories, and prayers. I've often heard that this is a "Family" that we are a part of, and I've come to believe it.

For those of you who haven't ever made it to Camp Sunshine for the Family Meeting, I strongly encourage you to start making plans for next year. I sure hope we will be able to attend, and I would love to meet you there! ♦

## 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

## Grills Gone Wild BBQ Contest & Blues Concert

by *Lezlie Chesler*

Patrick Barber and I have a nephew with Fanconi anemia. His name is Noah Chesler, and he is very special to us. Since Pat and Noah are “best buddies forever and ever,” we decided to host a fundraiser for the Fanconi Anemia Research Fund, Inc., at our restaurant.

The event was held on July 24, which is a state holiday in Utah. We blocked off the street and had a BBQ cook-off in front of the restaurant. In addition, we obtained an extended use permit and built a stage on the empty lot next to the restaurant for the blues concert. The cook-off was a success, and the blues concert featured six local bands and one national touring act—James “Super Chikan” Johnson. About 300 very generous people showed up, and we earned about \$2,000 for FARF from food sales, entry fees, and individual donations.

Pat and I were overwhelmed with the support from our patrons and sponsors. People gave generously and without question to a cause they had never heard of, yet had the kindness of heart to support.

We plan on making this an annual event. So, if you are in Utah next July, put “Grills Gone Wild” on the top of your “to do” list! ♦



*Patrick Barber and Noah Chesler*

## Running the Chicago Marathon for Jacob

by *Stacey Konieczka*

For years I have contemplated running a marathon for two reasons: to meet a personal goal and to raise money to help children who are suffering from a medical condition. I never really felt it was the right time to make the commitment, being a mother of 3 and working full time.

Then this past school year I met Jacob Grossman and his family. I was his social worker at Tripp Elementary School in Buffalo Grove, Illinois. At the beginning of the school year, the team of professionals working with Jacob met with Mrs. Grossman to learn about Fanconi anemia, as well as to discuss Jacob’s limits and goals within the school setting. After

listening to the list of Jacob’s medical concerns, it seemed impossible that he would be able to adapt to a “typical” school setting. However, my first meeting with Jacob changed my opinion rather quickly. He is extremely bright and has a quick wit about him. As the weeks passed, I began to admire his energy and determination to keep up with the other students in his first grade class. Jacob’s parents and teachers were amazed at his social and academic progress. He was beginning to write letters on paper and had more friends than most other first graders.

Meeting Jacob fit into my goal to run a marathon, specifically the



*Stacey Konieczka*

Chicago Marathon. I had the summer off for the majority of the marathon  
*continued on page 24*



# Play for FA Casino Night and Silent Auction: Perrysburg, Ohio

by Danielle Burkin

Our inaugural *Play for FA Casino Night and Silent Auction* on behalf of Hope Burkin was held August 19, 2006 in Perrysburg, Ohio. We extend our thanks to Lorraine and Kevin McQueen, FA parents from Virginia, for coming up with the phrase *Play for FA*. The event raised over \$8,000!

After holding a carnival and a cow plop in 2003 and 2004, and taking 2005 off due to having twins, we decided to gear our fundraising more to adults and organize a casino night and silent auction. We thought that the work involved in putting on a casino night would simply be arranging the catering and ordering table linens, as well as booking a gaming company to provide the DJ, games (blackjack, Texas hold 'em, craps) and gaming chips. Little did I know there were a few more things to take care of!

A committee of nine people assisted us in selling tickets and obtaining items for the silent auction. We sold tickets for \$35 a piece, which included the food and gaming. The most time-consuming piece of organizing our event was obtaining the silent auction items. We were very fortunate to receive several donations and ended up auctioning off 99 auction packages, including a Las Vegas vacation, AAA membership, sports items, Smuckers gift baskets, an American Girl gift basket, and more. We also had 25 door prizes. Attendees had to redeem their door prize voucher at the door prize table and then pull a dice out of the container. If they had the colored dice, they won a door prize.

Gaming was simple. People obtained a cup of chips from the "banker" at no charge (this was included in ticket price) and started their gambling. If they had a streak of bad luck, they simply returned to

the banker for more chips, again at no cost. During the event, we had a 50/50 Texas Poker Raffle. Two members of our committee walked around selling 50/50 "tickets" for \$1 each. Instead of using tickets, we used a deck of cards. Once we sold all 52 cards, Hope pulled the winning card, and the winner won \$26. We then started over with a new deck of cards.

An hour before the event ended, we announced that the silent auction was closing. At its close, we had a check-out table for those who won. Behind all the silent auction items, we had red bags ready for the winners to put their items in.

Decorations were simple: black tablecloths with red napkins. We had

*continued on page 23*



*Hope and Donny Burkin*

## 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 stands ready to assist each of 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. This insurance for a one-time event is often available through a family's homeowners insurance as a relatively inexpensive insurance rider. Please contact the Fund if you need assistance obtaining or paying for this required insurance.

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. One request: Please ask your donors to write their donation check to the "Fanconi Anemia Research Fund."

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

# Family Fundraising Efforts

**From January 1 through August 31, 2006, FA families raised \$712,065 for Fanconi anemia research.** The Fund also received donations of \$5,352 through the United Way and \$8,710 through the Combined Federal Campaign, for a combined total of \$726,127, slightly more than we had raised at this time in 2005! We extend our sincere thanks to all the FA families who worked so hard to raise these much-needed funds.

Since 2000, when FA families were challenged to raise more funds for FA research than raised by Fund founders Lynn and Dave Frohnmayer, FA families have risen to the challenge. Compare: In 2000, the Frohnmayers raised 69% of all money raised for the Fund, compared to 31% by all other families combined. Within 3 years, that percentage had changed markedly. In 2003, the Frohnmayers raised 48%, compared to 52%. For the first time, Lynn and Dave had been beaten by everyone else! They were absolutely delighted—and profoundly grateful to be part of this rapidly growing and increasingly effective FA Family Fundraising Team! By the end of 2005, the percentage had improved even more: 40% to 60%! This is all the more remarkable because Lynn and Dave continue to exceed their fundraising records each year, so all other FA families have had to raise proportionately more each year to keep up with—and exceed—them.

We cannot thank you enough. We know how hard it is to deal with the day-to-day reality of Fanconi anemia and somehow find time to raise funds. We also know that one can make a major contribution to the advancement of FA science—and attain some control over this disease—by sending that fundraising letter to family, friends, and acquaintances or holding the garage sale or organizing a 5K road race. Individual FA families, working separately, all around the world, can make—and have made—a huge difference in the outcome of this disease.

This year our fundraising goal is \$2 million. We are heartened by and sincerely grateful for the results of your fundraising efforts thus far. As always, members of our staff and the leaders of the FA Family Fundraising Teams are eager to help you with your fundraising efforts—especially now, during the upcoming holiday season.

## **FA families who have raised funds so far in 2005 are the following:**

### **\$100,000 and up**

Dave and Lynn Frohnmayer  
Glen Shearer and Peggy Padden

### **\$50,000 to \$99,999**

John and Audrey Barrow  
John and Kim Connelly  
Dan and Nikki McCarthy

### **\$25,000 to \$49,999**

William and Carol Kuell

### **\$15,000 to \$24,999**

Ken and Jeanne Atkinson  
Randy and Nancy Bloxom  
Tanner and Jessica Lindsay

### **\$10,000 to \$14,999**

David and Kim Chew  
Charles and Katy Hull  
Jack and Lisa Nash

### **\$5,000 to \$9,999**

Donald and Danielle Burkin  
Chris and Susan Collins  
Ed and Janice Duffy

Carol Felmy and Michael Glas  
Peter and Tara Himmelreich  
Brian Horrigan and Amy Levine  
Lorraine and Kevin McQueen  
Bob and Andrea Sacks  
Mike and Beth Vangel  
Kim and Michael Williams

### **\$1,000 to \$4,999**

Claire Ashurst and Allen Wright  
Mark and Linda Baumiller  
John and Francene Berglund  
James and Tracy Biby  
Darryl Blecher and Diana Fitch  
Mike and Kerrie Brannock  
Lezlie Chesler  
James and Carol Dillon  
Stephen and Doreen Flynn  
Susan Gannon  
Alan and Rachel Grossman  
Beth and Jeff Janock  
Christie and Randy Kelley  
Erik Kjos-Hanssen and Turid Frislid  
Lynette and Gregory Lowrimore  
Deane Marchbein and Stuart Cohen  
Steve and Allison McClay

Robert and Mary Nori  
Fred and Nancy Nunes  
Derek and Ginger Persson  
Peter and Janice Pless  
John and Dianne Ploetz  
Marcia Reardon  
Jack and Tannis Redekop  
Bill and Connie Schenone  
Mark and Susan Trager

### **Up to \$999**

Andrew and Vicki Athens  
Roger and Sarah Baker  
Cherie Bank  
Conrad and Joan Bender  
Jeffrey and Donna Boggs  
Michael and Diane Bradley  
Mary Cable  
Mark and Brenda Carpenter  
Jeanette Clark  
Tyler and Teresa Clifton  
Jerome and Blenda Dahlin  
Donna DellaRatta  
Pat and Mary DiMarino  
Antonino and Marie DiMercurio  
Sandra and Lindsay Dunn

## 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 gift-worthy event, consider asking that donations be made to the Fund in honor of the reason for the event.

**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 memory of the deceased individual. The Fund has received many thousands of dollars from caring people who have responded to obituary announcements.

**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. 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 gifting 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](http://www.missionfish.org)).

**United Way or Combined Federal Campaign:** If you work for an organization covered by either of these organizations, consider making a donation via your workplace 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](http://www.fanconi.org))

**Donations by Telephone:** Call us at (541) 687-4658 or toll free at (800) 828-4891.

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

Nathan and Ann Eckstadt  
Gene and Lynn Eddy  
Sharon Ellis  
Frederic Engel  
Curt and Crystal Fales  
David and MaryAnn Fiaschetti  
Nanette Vannostran Foster and Bret Foster  
Gary and Melody Ganz  
Ronald and Vicki Gibson  
Pat and Maria Gleason  
Maria Godwin  
Allan and Lori Goldberg  
Andrew and Jennifer Gough  
Mitchell and Tirzah Haik  
John and Martina Hartmann  
Bob and Victoria Hathcock  
Roger and Eleanor Herman  
Carol Hill  
Jeff and Judy Hoffman  
John and Karilyn Kelson  
Kayla Lackey  
Eugene and Renee Lemmon

Todd and Kristin Levine  
Eric and Beth Losekamp  
Bill and Jackie Lucarell  
Gianna and Lauren Megna  
Charles and Cecelia Meloling  
Griff and Cecilia Morgan  
Tyler Morrison and Rachel Altmann  
John and Betty Mozisek  
Sheila Muhlen  
Kenny and Lisa Myhan  
Tony and Lina Nahas  
Kevin and Lorraine O'Connor  
Mark and Diane Pearl  
Steve Perkins and Karen Magrath  
Freddy and Kathy Pharris  
Lynn and Shirley Quilici  
Kevin and Katie Rogers  
Lynn and Rick Sablosky  
Chris Scaff  
Thomas and Brenda Seiford  
Bryan and Karen Siebenthal  
Jim and Carol Siniawski  
Walter and Nancy Smith

Greg and Brandi Stuart  
Mark and Susan Trager  
Melissa Turner  
Marc and Sandi Weiner  
Nancy and Reese Williams  
Wesley and Sue Wycoff  
Sean and Kristin Young ♦

### Play for FA Casino Night and Silent Auction: Perrysburg, Ohio

*continued from page 21*

red dice made out of square boxes in various areas and a few posters of Elvis around. We did not need to do too much, as the hall had a unique personality already.

The event was a success, and everyone seemed happy when they left. We will be doing it again on August 25, 2007. All are invited!! ♦



## Running the Chicago Marathon for Jacob

*continued from page 20*

thon training and now I knew what charity I would raise money for. I became very motivated to help Jacob and others suffering from Fanconi anemia. After making this decision, I contacted Rachel Grossman to see if she would allow me to use Jacob's story. She quickly responded "Yes, I truly believe that if it were not for the Fanconi Anemia Research Fund, Jacob would not be here today." At that moment, I knew I had made the right decision.

Now the hard work and training would begin. I had the support of my family, friends and school district to do my part to help the FA

Research Fund. I sent over 700 letters to friends, family, and people in the Buffalo Grove community to ask for donations on Jacob's behalf. Thus far, my training has gone very well. I use my running as a time for relaxation and personal reflection.

On August 13, I completed the half-marathon in Chicago and felt good with the results. Although I am only halfway to my goal, I am confident that my motivation and determination will see me through to the end of the 26<sup>th</sup> mile on October 22, 2006. I am also hopeful that I will raise a good amount of money for the FA Research Fund and am confident that my effort will help Jacob and other children who are suffering from FA. ♦



**Fanconi  
Anemia**

RESEARCH FUND, INC.

1801 Willamette St., #200  
Eugene, OR 97401  
phone: (541) 687-4658  
(800) 828-4891 (USA only)  
FAX: (541) 687-0548  
e-mail: [info@fanconi.org](mailto:info@fanconi.org)  
web site: [www.fanconi.org](http://www.fanconi.org)

### Newsletter Editors

Lynn & Dave Frohnmayer  
Mary Ellen Eiler  
Joyce Owen, PhD

### Layout and Design

Tanya Harvey, Wild Iris Design

### Staff

*Executive Director:*

Mary Ellen Eiler

*Family Support Coordinator:*

Jana Black

### Board of Directors

Barry Rubenstein, JD, President  
David Frohnmayer, JD, Vice President  
Ruby Brockett, Secretary/Treasurer  
Deane Marchbein, MD  
Kevin McQueen  
Mark Pearl  
Robert D. Sacks  
Michael L. Vangel  
Peter von Hippel, PhD  
Joyce Owen, PhD, Director Emeritus  
Lynn Frohnmayer, Advisor to the Board

### Scientific Advisory Board

Grover C. Bagby, Jr., MD, Chair  
Marc Coltrera, MD  
Richard Gelinan, PhD  
Eva Guinan, MD  
Hans Joenje, PhD  
Christopher Mathew, PhD  
Stephen Meyn, MD, PhD  
Raymond J. Monnat, Jr., MD  
Elaine Ostrander, PhD  
Maria Pallavicini, PhD  
Kevin M. Shannon, MD  
Neal Young, MD

### Printing

Image Masters Printers

# The Nineteenth Annual International FA Scientific Symposium

## OCTOBER 8–11, 2007

The Westin Michigan Avenue  
Chicago, Illinois