



FA FAMILY NEWSLETTER

#42

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Fall 2007

Minnesota Continues Efforts to Decrease Dose of Total Body Irradiation (TBI)

John Wagner, MD, University of Minnesota, was unable to attend our Family Meeting due to cancellation of flights. He kindly submitted the following summary of his planned remarks on the crucial subject of trying to decrease radiation and identify the ideal stem cell transplantation protocol for patients lacking matched sibling donors.

The exact amount of chemotherapy and irradiation required to secure engraftment has been largely unknown for patients with FA undergoing unrelated donor bone marrow transplantation. In

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Happy campers!

Annual FA Family Meeting

Fifty-one FA families with 92 children, including families from Canada, South Africa, South America, Europe, Australia, and Mexico, came together at Camp Sunshine again this year for the FA Family Meeting. Five FA adults attended, as did forty FA children. They all enjoyed every minute of the experience!

As always, the fun-loving Camp Sunshine volunteers were exceedingly welcoming, helpful, and accommodating. The children spent their days doing arts & crafts, wall climbing, practicing for the Talent Show, dancing at the Masquerade Ball, swimming, playing table tennis and miniature golf. Recreational opportunities seemed endless. The best part was that those kids who attended in prior years got to renew friendships, and those attending for the first time got to meet other FA

children or other FA siblings and to begin lifelong friendships.

Parents and FA adults renewed old friendships and made new ones. These bonds reduce the isolation inherent in an orphan disease and are alone worth traveling all the way to Maine for the meeting. But, on top of that, clinicians expert in bone marrow transplantation, endocrinology, gastroenterology, eating issues, learning disabilities, squamous cell carcinoma, and many other issues affecting FA patients volunteered their time to present information about their specialties. The opportunity to hear this information in one place, surrounded by other FA families dealing with the same thing, with the ability to ask questions of the doctors—aided by Nancy Cincotta's "Coping with FA" groups—is simply priceless.

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MEDICAL NEWS

Certain Chromosomal Abnormalities Lead to Poor Outcome

Holger Tönnies, PhD, University Hospital Schleswig-Holstein, Campus Kiel, Institute of Human Genetics, reminded us again that certain chromosomal abnormalities, found in the bone marrow and in blood cells, are closely associated with evolution to myelodysplastic syndrome (MDS) and acute myelogenous leukemia (AML) in FA patients. He made the following observations:

- 1) Abnormal clones that characterize non-FA leukemia patients are different than the clones FA patients develop. Worrisome clones in FA are usually “unbalanced translocations.” This means that there is a gain or a loss of chromosomal material.
- 2) Abnormal clones can evolve over time. The original clone gives rise to a second abnormal clone, and this process can continue until malignancy develops. Typically, more than one clone is necessary for a tumor to develop (often, tumors have numerous different mutations).
- 3) A gain of material on chromosome 1 can be transient in FA patients.
- 4) Certain tests, such as FISH (fluorescent *in situ* hybridization), are necessary to detect a subtle and dangerous clone, a gain of material on chromosome 3. A simple cytogenetic analysis often misses this aberration.
- 5) **Abnormal clones on chromosomes 3 (gain) and 7 (loss) do not tend to go away but they expand, sometimes rapidly, and lead to MDS and leukemia.** A gain of chromosome material on 3 is very common in FA patients; a loss of the long arm or of one entire chromosome 7 is also common, but less so than abnormalities of 3.
- 6) **Both bone marrow and blood cells can be used to detect abnormal clones.** Since it's relatively easy to access blood, Tönnies recommends performing a FISH analysis up to four times a year (three on blood, one on marrow). An abnormality on chromosome 3 can appear quickly with disastrous complications. If possible, these patients should go at once to transplant.◆



Holger Tönnies, PhD



John Wagner, MD

MultiStem: Development of a Protocol

by John Wagner, MD, University of Minnesota

In 1999, investigators at the University of Minnesota discovered a new population of stem cells in human bone marrow that had the potential of differentiating into many different tissues of the body, including cells that line the lung and gastrointestinal tract, liver and even beta cells that secrete insulin. Rigorous controlled studies subsequently were performed to maximize safety prior to clinical testing. Each reagent in the stem cell selection process and component of the expansion culture

was evaluated extensively. Afterward, the stem cells, referred to as “MultiStem,” had to be tested in animals, not only to verify their effectiveness in repairing damaged tissues but also to verify the absence of side effects, e.g., infusional toxicity or aberrant tissue formation (such as growth of bone in heart muscle or lung cells in the brain). The first Investigational New Drug application is being submitted to the FDA for review, including the results of all research

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German Transplant Physician Shares Insights; Transplant Outcomes

Wolfram Ebell, MD, Charité Hospital, Berlin, has now transplanted 40 FA children with matched family or alternative donors, and follows the status of 210 FA patients in the German registry. He shared important observations with attendees at Camp Sunshine:

- 1) Patients who have received bone marrow transplants in Germany still have a shorter life-expectancy than those who were never transplanted. This might reflect the greater severity of hematological disease of the transplanted patients, or could reflect the harmful effects of transplant itself. Ebell added that transplant outcomes have greatly improved over the past 10 years and newer, less toxic protocols should improve longevity of transplanted patients.
- 2) Complementation group affects overall survival outcomes. Patients in the BRCA2/D1 and N complementation groups have a poor prognosis. Patients in G and C do less well overall than those in A.
- 3) The degree of skeletal malformations is correlated negatively to a poorer prognosis.
- 4) Clonal abnormalities on chromosome 3 are highly predictive of myelodysplastic syndrome and acute myelogenous leukemia.
- 5) Transplant outcomes continue to improve. Over the past 9 years, Berlin has transplanted 19 FA patients with alternate donors. Thirteen survive. Leukemia is associated with a poor outcome (only one of three with leukemia survived).
- 6) Ebell does not use radiation, but rather a conditioning protocol including low-dose busulfan, fludarabine, and ATG. If the donor is mismatched, Ebell uses T-cell depleted peripheral blood stem cells and cyclophosphamide.
- 7) Ebell believes there is no significant difference in transplant outcomes between a matched sibling donor transplant and a matched



Wolfram Ebell, MD

alternate donor transplant. In fact, Ebell stated that a closely matched, healthy, unrelated donor may be preferable to a matched sibling donor. He speculates that an adult's immune system may offer better protection against post-transplant infections than that of a young sibling! ♦

Davies Presents Helpful Overview of Bone Marrow Transplantation; Discusses Outcomes in Cincinnati



Stella Davies, MD

Stella Davies, MD, Cincinnati Children's Hospital Medical Center, discussed how bone marrow transplants differ from organ transplants, and why total reconstitution of the marrow and immune system requires a full year.

Davies reviewed Cincinnati's experience over the past ten years in transplanting 35 FA patients with matched sibling donors. The conditioning protocol included 450 rads of radiation. Of 35 patients transplanted, 29 (or 89%) are alive and well; all patients transplanted in the past five years survive. Eight of 35 experienced mild graft-versus-host disease (GVHD); two had severe GVHD. Four patients developed chronic GVHD.

One year ago, Cincinnati eliminated radiation from its conditioning protocol for patients with matched sibling donors. All three patients treated under the new protocol are alive and well.

Cincinnati has now transplanted 15 patients with alternate donors. This protocol, modified in 2004, includes fludarabine, cyclophosphamide, and 450 rads of radiation. Eleven of these patients survive. ♦

Bone Density and Lipids Abnormal in FA Patients

Blanche Alter, MD, MPH, National Cancer Institute, and her colleagues published an article on endocrine abnormalities in FA patients in the *Journal of Clinical Endocrinology and Metabolism*, June 2007. Previously unreported in the literature on FA, they found that a very high percentage of FA young adults suffer from osteopenia or osteoporosis. Low bone density can cause bone fractures and considerable suffering, and is a treatable complication.

Patients were participants in the NCI's Inherited Bone Marrow Failure Syndrome study and were evaluated on site at the National Institutes of Health Clinical Center. Thirteen FA patients, ages 18–43, were measured for bone mineral density by DEXA scan. Ninety-two percent (12 of 13) had osteopenia (7 patients) or osteoporosis (5 patients). Both males (4) and females (8) were affected; the only normal patient was a 27-year-old male. Patients should consult their treating physician on the screening and treatment issues suggested by this new finding.

An additional new finding was that 55% of the patients had abnormal lipid profiles, such as elevated cholesterol levels. ◆



Blanche Alter, MD, MPH

Cancer Epidemiology in FA Patients

Blanche Alter, MD, MPH, National Cancer Institute, gave a sobering presentation on cancer in FA patients. Alter's excellent summary is posted on our website at www.fanconi.org. She concluded that FA patients are at very high risk of cancer or leukemia and require frequent monitoring of their blood, bone marrow, head and neck, and gynecologic regions. Alter made the following observations:

- The median age for cancer in the general population is in the 60s, while FA cancers of any type had a median age of under 30 years.
- A combined 327 patients from the North American Survey plus the German Fanconi Anemia Registry had a 48-fold increased risk of any cancer.
- Significant increased risks were for esophageal or vulvar cancer, acute myelogenous leukemia (AML), head and neck squamous cell carcinoma (HNSCC), liver, cervical, breast and brain cancer.
- By competing risk analyses, the *first adverse event* was predicted to be aplastic anemia in >45% by age 20, solid tumor in 29% by age 50, and AML in 20% by age 35. Patients with a large number of physical abnormalities had early onset aplastic anemia; those with no anomalies had later onset AML and even later solid tumors.
- Survival time to *any adverse event* produced more worrisome results. FA patients had a 75% chance of experiencing a solid tumor by age 45.
- In 25% of patients with cancer and FA, the cancer diagnosis preceded the recognition of FA.
- Patients in two complementation groups, FA-D1 and FA-N, have an extremely high risk of developing certain cancers at a very young age. More than 95% developed a malignancy by age six years.
- Patients who had a bone marrow transplant were 4-fold more likely to develop HNSCC, and did so at a younger age than those who did not have a transplant; the association with graft-versus-host disease and/or irradiation is suggestive, but not proven.
- Human papillomavirus (HPV) is implicated in most cervical cancer and 25% of HNSCC in the general population; the role of HPV in FA cancers remains under study. The NCI and other FA centers plan to develop a study for administration of HPV vaccine to male and female patients with FA from age nine on (see the *FA Courier* for more information). ◆

Gynecologic Issues for Girls with FA

Contributing Editor Lynn Sablosky

Jill Huppert, MD, Cincinnati Children's Hospital Medical Center, presented information about adolescent gynecologic (GYN) issues and reproductive health that pertains to all girls. She identified factors that could specifically pertain to FA females, such as the impact of androgen therapy, thyroid problems, and weight issues. If a girl is underweight, suffers from a chronic illness, or is on androgen therapy, puberty might be delayed and/or menses may be irregular. For all females, family history also influences the onset of puberty. The goal of treatment is menstruation regulation or menstruation suppression to prevent anemia.

As FA females age beyond the adolescent years, additional concerns arise. Due to decreased fertility, a variety of family options may be explored, including advanced assisted reproductive technology strategies. Because premature ovarian failure is a concern, FA females who want to become pregnant should not delay childbearing and should be evaluated earlier for infertility treatments than would be recommended for someone without FA.

Prevention of and surveillance for GYN cancer is crucial. Dr. Alter has reported that FA females have an earlier onset of GYN cancers (vulva, anus, cervix) compared to non-FA females. The mean age of onset in the FA female population is age 22, while the mean age of onset in the non-FA population is age 47 for cervical cancer, and age 70 for vulvar cancer.

Preventing infection from certain types of the human papillomavirus (HPV) is necessary for all females, as HPV is recognized as the major cause of cervical cancer, and studies also suggest that HPV may play a role in

cancers of the anus, vulva, vagina, and some cancers of the head and neck. An HPV vaccine (Gardasil) is now available and recommended for females age 9 to 26.

Considering all of these issues, FA

girls should begin GYN exams at the age of menarche or by age 13 to 15, have these exams twice a year, be vaccinated against HPV and have confidential discussions with their doctor concerning sexual behavior. ♦

Your FA Research Dollars at Work in 2007

From January through September 2007, the Fanconi Anemia Research Fund awarded \$615,662 in research grants to the following projects:

Investigator: Simon J. Boulton, PhD, and Spencer Collis, PhD

Title: *Elucidating the Role of HCLK2 in the Fanconi Anemia Network*

Amount: \$137,778

Investigator: Robert Brosh, Jr., PhD, National Institute on Aging, NIH, Baltimore, MD

Title: *Molecular and Cellular Investigation of the FANCI Helicase Defective in FA*

Amount: \$50,000

Investigator: Laura E. Hays, PhD

Title: *Comparative Genetic and Metastatic Potential Analyses of Head and Neck Squamous Cell Carcinomas from Wild-type and Fancc-deficient Mice*

Amount: \$55,000

Investigator: Maureen Hoatlin, PhD, Oregon Health & Science University, Portland, OR

Title: *DNA Structure-specific Activation of the FA Proteins FANCM and FANCD2*

Amount: \$30,539

Investigator: Ian C. Mackenzie, DDS, PhD, FDSRCS, Institute of Cell and Molecular Science, University of London, London, UK

Title: *Influences of Stem Cell Behavior in Head and Neck Cancers in Fanconi Anemia Patients*

Amount: \$192,345

Investigator: Ruhikanta Meetei, PhD, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

Title: *Defining the Fanconi Anemia-DNA Repair Pathway by Protein Association Analysis*

Amount: \$150,000

Head and Neck Cancer: Prevention, Surveillance, Treatment

Contributing Editor Annette Waxberg

Bhuvanesh Singh, MD, Memorial Sloan-Kettering Cancer Center, New York, reminded us of the high risk of head and neck squamous cell carcinoma (HNSCC) in FA patients and presented helpful information on how to manage this serious complication. He also spent most of one day examining the mouths of FA patients, offering his assessment to FA families. Thanks for giving so generously of your time, Dr. Singh!

HNSCC is different in FA patients compared to the general population

According to a study of data in the International Fanconi Anemia Registry, the age of onset of HNSCC in FA patients ranged from 15 to 49 years (with a median of 31 years) versus 50 to 60 years (with a median of 53 years) in the general population. By age 40 there was a 21% incidence of HNSCC in FA patients.

The study also indicated that the number of women with HNSCC was twice that of men, which is the opposite in the general population. There was no association with the development of HNSCC and the type of Fanconi anemia mutation. The location of HNSCC was most frequent in the oral cavity (65%) versus the larynx, hypopharynx and oropharynx (each at 10%). This is a different distribution than in the general population.

Prevention tools

Dr. Singh emphasized ways to address the risk of HNSCC as follows:

- Maintain good oral hygiene
- Do not drink alcohol
- Do not use tobacco
- Avoid second-hand smoke exposure
- Do not use mouthwash containing alcohol



Bhuvanesh Singh, MD

The new HPV (human papillomavirus) vaccine may prevent certain HNSCC's. HPV is associated with some HNSCC's in the general population. Singh recommended this vaccine for all FA patients, male and female. While many insurance companies will pay for the HPV vaccine in females ages 9 to 26 because of the role HPV plays in cervical cancer, it may be difficult to get coverage for males or for anyone outside this age group. We await final approval of a multi-center study of this vaccine in FA patients, which will provide all three inoculations at no charge.

Detect problem areas early while they are treatable

A qualified examiner should do routine head and neck screening of an FA patient twice a year in order to detect lesions before they become aggressive. The health care professional performing the screening could be an ear, nose and throat specialist, an oral surgeon, or other doctor experienced in head and neck cancer detection and treatment. Screening should include a regular endoscopy (a flexible fibre optic examination of the voice box), and examination of the lymph nodes in the neck.

How is head and neck cancer treated in FA patients?

Surgery is well tolerated and remains the mainstay of treatment, because patients with FA bear radiation therapy and chemotherapy poorly. If radiation or chemotherapy is indicated, a doctor extremely experienced with Fanconi anemia treatment must be involved with its administration in order to address the patient's sensitivity to DNA-damaging agents.

After the tumor is removed, there is a high risk for secondary cancers (52%); aggressive monitoring by the surgeon is absolutely required. Science is continually changing to improve outcomes, but currently a patient's most potent tools are rigorous screening and prevention ♦

Treating Precancerous Head and Neck Lesions: ONYX015 Revisited

From March 2000 until October 2000, FA patient Paula Ceresa underwent a phase 2 clinical trial of ONYX015, developed as a mouthwash to treat precancerous lesions of the mouth. Both Paula and the physician conducting this trial believed that Paula had benefited significantly from ONYX015. Her precancerous lesions, initially confirmed by biopsy, had disappeared, and her mouth appeared normal. Unfortunately, the company producing this drug was sold, and ONYX015 was discontinued. Paula's precancerous condition returned after ten months.

FARF recently learned that Sunway Biotech Co., Ltd in Shanghai, China, licensed the patent rights to ONYX015, and with slight modifications now markets it as H101. It is used in China to treat metastatic head and neck cancer.

In May 2007, David and Lynn Froehnmayer traveled to Shanghai



Dave Froehnmayer, Dr. Jie, Lynn Froehnmayer, and Dr. Liang

and met with researchers Chen Jie and Min Liang at Sunway to discuss the possibility of making the ONYX mouthwash available again for FA patients. Both were sympathetic to our request, and agreed to help. Dr.

Liang has initiated contact with a US biotechnology company and with a researcher involved in the earlier trial of ONYX015 to determine the feasibility of restarting the clinical trial of this drug in the United States. ◆



Renee Genovese, MS

Preimplantation Genetic Diagnosis

Renee Genovese, MS, Genetic Counselor, Reproductive Genetics Institute (RGI), Chicago, made her third appearance at the FA Family Meeting to present on Preimplantation Genetic Diagnosis (PGD). This technique makes it possible to know the health and HLA status of an embryo before pregnancy occurs. A comprehensive explanation of PGD and outcomes at RGI can be found in the Fall 2006 *FA Family Newsletter*, Edition #40, p.8.

Genovese updated families on results at her center. RGI has now worked with 12 FA families from four different complementation groups. In total, these families went through 38 PGD cycles, resulting in six live births (including one set of twins). Based on this very small

sample, chances of achieving a successful birth were 13% per cycle.

Genovese noted that parents with genetic disorders other than FA, where both the health and the HLA status of the embryo were factors in determining which embryos to implant, had higher success rates than FA families (26% instead of 13% per cycle). Genovese believes that the age of the mother is the primary factor in determining likelihood of ultimate success.

PGD is expensive. Each cycle can cost between \$23,000 and \$25,000. One-time only set-up fees can add up to \$9,000. Some fees are waived for the first cycle (up to \$6,000) if PGD plus *in-vitro* fertilization are done at RGI. ◆

Endocrine Problems in FA Patients

Susan Rose, MD, Cincinnati Children's Hospital Medical Center (CCHMC), reminded us again that FA patients have a wide range of endocrine abnormalities that could affect growth and are at high risk for developing diabetes.

Cincinnati has now done endocrine studies on 64 children with FA. Almost half were small at birth, and 67% had short stature in childhood. Many children (69%) had subtle thyroid deficiencies.

Rose gave an update on her on-going study to determine if FA children with mildly low thyroid hormone would grow better on thyroid treatment. Ten patients are enrolled. The study is not complete, but it is already apparent that some children grow better when given thyroid hormone. Cincinnati will enroll 6 more children in this trial; travel to Cincinnati is not required.

Glucose and insulin are often abnormal in FA children. FA children often had slow insulin release with some insulin resistance. Some could benefit from insulin therapy.

Of 36 FA patients who took the oral glucose tolerance test, 31 had abnormal findings (fasting values were almost always normal, but eating triggered an abnormal response). Hyperglycemia (high blood sugar) was found in 85% of children; impaired glucose tolerance in 44% and overt diabetes in 41%. Symptoms of diabetes include thirst, weight loss, insulin levels that bounce from too high to too low, shakiness, and bed-wetting in children.

Rose strongly advises FA patients to eat foods with a low glycemic index (the index measures how fast a food raises blood sugar), and to avoid foods with a high glycemic index.

Foods NOT advised include:

- White carbohydrates (bread, bagels, rice, potatoes)
- High sugar foods (sodas, juice, sweet cereal, pop tarts, candy without nuts, 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



Susan Rose, MD

GH for FA children who test very deficient for growth hormone.

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

Fanconi Anemia Mutation Screening

Sue Richards, PhD, Oregon Health & Science University, wants to inform our FA community of her laboratory's progress in providing mutation screening for FA patients. She writes:

Clinical testing for FANCA is currently being offered by the Oregon Health and Science University Molecular Diagnostic Center, a CLIA- and CAP-approved laboratory. Mutation scanning, full sequence analysis, and deletion/duplication testing is offered for FANCA. Clinical testing for FANCC and FANCG will be offered in late Fall 2007. Other FANC gene testing will follow by Spring 2008. For further information, contact the OHSU DNA Laboratory at 503-494-5400.

Thanks for this valuable service, Dr. Richards! ◆

Late Effects and Survivorship in Patients with Fanconi Anemia

Margaret MacMillan, MD, University of Minnesota, described the new Fanconi Anemia Survivorship Clinic, now available to patients at the University of Minnesota's Fanconi Anemia Comprehensive Care Program. She stated that remarkable advances in the success of hematopoietic stem cell transplantation over the last decade mean that a greater number of FA patients are living into adulthood. To date, there has been no comprehensive, systematic evaluation of long-term survivors with FA. MacMillan stated that the time has come to identify new strategies that will positively impact our FA patients' long-term health and quality of life.

Late effects and survivorship have become a major focus for the FA Comprehensive Care Program at the University of Minnesota. The aims of the Survivorship Clinic are: 1) to determine the frequency and severity of late effects, both from the underlying disease and various therapies; 2) to assess risk factors for these late effects; and 3) to develop therapeutic interventions. To this end, all FA patients will be monitored closely, including comprehensive health screening and quality of life assessments. Research will be an important aspect of the Clinic's goals.

All FA patients regardless of treatment received are at risk for a number of late effects inherent to FA or its treatment. These include issues arising from congenital anomalies (*e.g.*, gastrointestinal, heart, kidney and musculoskeletal abnormalities); endocrine issues (diabetes, growth hormone deficiency, hypothyroidism); reproductive issues (infertility, high risk pregnancies); nutritional issues, and risk of malignancy. In addition, all patients and their families are at risk for psychosocial issues related to living with a chronic

disease. Patients are also at risk for long-term effects from treatments including multiple transfusions (organ toxicities secondary to iron overload); androgens (liver adenomas, masculinization); and/or bone marrow transplantation (graft versus host disease, organ dysfunction).

All FA patients should undergo

regular screening. Where possible, testing will be done locally, but coordinated by the Clinic, including dental evaluations every 6 months, annual evaluations of the head and neck area by an Ear, Nose and Throat physician, gynecological exams for females including annual Pap smears, and dermatological assessments.◆



The Twentieth Annual International FA Scientific Symposium

OCTOBER 4–7, 2008

Hilton Hotel
and Conference Center
Eugene, Oregon



Causes and Treatments of Gastrointestinal (GI) Symptoms

Contributing Editor Lynn Sablosky

Gastroenterologist Sarah Jane Schwarzenberg, MD, from the University of Minnesota Children's Hospital reviewed the causes of common GI problems that often afflict FA patients and suggested treatment options for a range of symptoms. About 7% of FA patients have GI tract anatomic abnormalities that are associated with abdominal pain and gastroesophageal reflux. But FA patients without an obvious anomaly also experience these same symptoms and others such as diarrhea/constipation, nausea and poor oral intake.

Before considering treatment options, Schwarzenberg emphasized the importance of a thorough evaluation including a good history and physical exam, endocrine studies, and blood tests that indicate possible infection or inflammation.

Parents commonly report poor oral intake in FA children. The causes vary. Gastric emptying and motility problems can contribute to poor oral intake. Medication side effects, common viral infections and behavioral problems may also alter appetite.

Children usually do not describe



Dr. Schwarzenberg talking with families after her presentation.

their symptoms the same way that adults do.

Children may complain of hiccups, burping, and pain around their navel when attempting to describe what adults refer to as "heartburn." Complaints of "feeling full" can be the result of gastric emptying delay.

Treatment can relieve some of these symptoms and improve weight gain. If reflux is suspected, the goal of treatment is to decrease the amount of gastric acid in the stomach. Drugs such as Prevacid, Prilosec, Nexium, or Zantac might be prescribed. Other medications can promote gastric

motility or prevent nausea. For constipation, fiber products such as Benefiber and Metamucil or a laxative, such as Miralax, that works by holding water in the stool, might be helpful.

For children who fail to gain weight, supplemental feeds (often called "enteral" feeds) may be necessary. Before choosing the method for enteral feeds, the child and family must be educated in the pros and cons of each tube-feeding option. To test the child's tolerance of enteral feeding, a tube inserted through the nose (nasogastric tube) should be tried before a tube is surgically inserted into the stomach (gastrostomy tube). For patients who cannot tolerate enteral feeds into the stomach, a tube that delivers nutrients to the small intestine may be appropriate.

Patients treated with androgens or red cell transfusions can develop liver disease. These patients should have liver enzyme tests every three months, and an ultrasound twice a year. Although most benign or malignant liver tumors are associated with androgens, FA patients have developed these complications independent of androgen therapy. Schwarzenberg recommended periodic liver ultrasound for all FA patients. ♦



Parents listen intently to medical presentations at the FA Family Meeting.

Nutrition and Feeding Issues for FA Children

Michelle Trumy, MPH, RD, CD, Children's Hospital of Wisconsin, gave a thought-provoking presentation on nutritional and feeding issues that affect FA children. Parents frequently complain that their children are very picky eaters, and worry that they are underweight for their height. Trumy provided nutritional guidelines for different age groups, offered tips on increasing caloric intake, and focused on parental behaviors that can improve their child's oral intake.

The Body Mass Index (for children 3 and older) is the most helpful tool for understanding if a child's weight is appropriate given his height. The "weight for height" chart is used for children under 3. For the very young underweight child, Trumy offered guidelines and tips: for example, if the child doesn't like Pediasure, add carnation instant breakfast, chocolate/strawberry syrup or high caloric milk (4 ounces of whole milk plus one tablespoon heavy whipping cream). Trumy does

not recommend juice. Juice curbs hunger, is not needed for a healthy diet and is low in nutrients.

Certain foods can be added to increase caloric intake, such as olive oil, butter, cheese, peanut butter, gravy and sauces, etc. High caloric foods include avocado, black olives, liver sausage, deli meats, yogurt, hummus, nuts (if safe), eggs and pudding. Large portions can be intimidating, so keep portions small for young children.

Certain parental behaviors can greatly improve a child's oral intake. Trumy counsels parents not to become "short order cooks" (feeding children on demand). Ultimately, children who graze throughout the day eat less in the end than children who adhere to a structured schedule. Three meals per day at least 3–4 hours apart, with no more than 1–3 snacks in between, is ideal.

Meals should be served at the table and limited to 20–30 minutes. Good effort should be praised; negative behaviors ignored. Parents



Michelle Trumy, MPH, RD, CD

should eliminate distractions such as TV or toys at mealtime. Encouraging children to eat a number of "bites" can be helpful. Even if the child has not finished the meal, it should end on schedule. The child will be hungrier for the next meal! In some cases, referral to a behavioral psychologist, dietician or speech/language pathologist can be helpful. ♦



David Williams, MD

Clinical Trials: Purpose and Benefits for Patients

David Williams, MD, Cincinnati Children's Hospital Medical Center (CCHMC), explained the purpose and rationale underlying the four phases of a clinical trial. He strongly recommended that children with rare diseases, such as FA, receive treatment at large comprehensive medical centers specializing in one's own rare disease. Physicians at these centers treat large numbers of similarly affected children. Multi-disciplinary teams enable doctors to treat different manifestations of an illness, and large centers can offer clinical trials of new drugs and approaches not offered at smaller centers.

The Fanconi Anemia Comprehensive Care Center at CCHMC follows over 115 patients and collaborates with other large institutions around the world. They operate cell and DNA repositories, perform complementation and mutation screening, and offer education and care to large numbers of FA families.

The reader is referred to the *FA Family Newsletter* #40, Fall 2006, for an update on FA clinical trials currently available at Cincinnati. Dr. Williams' article on clinical trials has been posted on the FA website: www.fanconi.org. ♦

FAMILY NEWS

Our Personal Journey with PGD

Hello everyone, my name is Doreen Flynn, and I would like to share our experience with PGD/IVF (Preimplantation Genetic Diagnosis/ In-Vitro Fertilization).

Some of you may already know us. We have five beautiful children, three girls and two boys. Our three daughters have FA.

Jordan was diagnosed with FA in 2003, and, as her parents, we wanted to do whatever was possible for our child. We immediately sought out our options and heard about PGD/IVF. We consulted a geneticist, and he recommended an *in-vitro* clinic close to where we lived. We started the process shortly after that.

I considered myself a pretty fertile woman, as we already had three children, but for some reason my body did not react well to the injections that were required of me daily. The nurses at the IVF center were actually surprised that I produced so few eggs on these medications. It was like my body did the exact opposite of the expected.

At the end of the IVF cycle, we received our report about the status of the four embryos that we had that were viable after the 7 day period. To our amazement, one embryo was confirmed to be disease free and an HLA match for Jordan. The geneticist was 99.9% sure that another one was disease free and a perfect match. One of the other embryos was diseased and not an HLA match, and the fourth was disease free but not a match. My husband, Steve, and I talked about our options and decided to go with the two embryos that were disease free, even though there was a slight possibility that one of them could have FA.

I'm not sure what I was expecting the embryo transfer to be like, but the room was full of people and chaotic. After the procedure was finished, I had an uneasy feeling in my stomach, but at the same time I felt excited because this could be our chance at giving Jordan the best chance at transplant.

The waiting period before the pregnancy test can be confirmed seemed to drag on forever, but when the day came and I found out we were pregnant I was beside myself. I felt like we did it, we have the chance to give Jordan the best chance at transplant. I thought to myself that that wasn't so bad after all.

Early in the pregnancy it was confirmed that we were actually going to have two babies so we were ecstatic and a bit overwhelmed at the same time. We were adding two more children to our family. Now we were going to be a family of seven and boy did we have a lot of work to do to get ready.

The twins arrived six weeks early due to low amniotic fluid, and I had a C-section. Both girls had minor complications at birth and had to stay in the NICU for 22 days.

About two months after their birth, we sent out blood samples to confirm their disease status and HLA typing. I remember the day like it was yesterday. The results came in



Doreen Flynn and friend with the Flynn children at Camp Sunshine

the mail, and I really didn't think anything about them when I opened the envelope. But as I read down the page I couldn't believe what I was seeing. I had to reread them and reread them until it had sunk in. I looked over at Steve and just said, "They have FA, both of them have FA." I was numb from the shock and couldn't believe that this was happening. I felt we had failed Jordan and the twins and felt responsible for bringing two more innocent children into this world with this horrible disease.

To this day part of me might still be in denial about the whole thing. The twins are getting ready to celebrate their third birthday, but when I talk about FA to anyone I always refer to Jordan, not the twins. It's almost like they don't have it. Maybe that is my way of dealing with it.

Some of you may be looking to go through PGD/IVF, and my only advice to you is be very cautious. Please do your homework when researching the genetics institute

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Our Journey with FA

by Kelly Bennett

Our journey with FA began almost ten years ago. Our D-day (diagnosis day, as most of you know it) was April 29, 1998, the day our son Marshall, now 14, was found to have FA. That was the day the world stopped for us. Since then, we have been through lots of ups and downs. We had two more kids along the way. We learned that our daughter, Amelia, also has FA. Marshall and Amelia are like night and day.

Marshall was diagnosed at the age of four. At the time I had no clue what a CBC was or anything to do with blood, let alone platelets. When he was diagnosed, his platelet count was 33,000. He was put on oxymetholone at age five, but his platelet count remained low, and he had weekly platelet transfusions. One day, there were no platelets, and he had a massive brain hemorrhage. Our world again stopped. Miraculously, Marshall survived and has exceeded all the doctors' expectations. Eight short months from the brain hemorrhage, myelodysplasia started in his bone marrow; it was time to go to transplant. His chances of survival were low due to all that he had been through medically. Transplant proved to be quite a challenge for Marshall. He suffered a stroke and numerous other major obstacles, even a five-month stay in a hospital bed.

I am very proud to say that all of that was four years ago. Marshall is now a happy, HEALTHY 8th grader with 5 A's and 2 B's on his interim report. He is off all medicines, other than medicines for asthma. We are having him checked regularly for cancer.

The thought of transplant is never far behind us. Amelia, who is seven and in the second grade, will soon need a transplant. I am happy to say



Nathan, Amelia and Marshall Bennett

that she is currently doing pretty well: her platelets are up to 70,000 from 56,000 in May. We thought for sure they would keep dropping and that it would be transplant time again. We know that the longer it is before we go to transplant, the more the transplant outcomes will have improved. Unfortunately, I don't think that it will be any easier the second time around, with all the difficult memories flooding back.

Amelia is a tiny pack of dynamite. She has been taking growth hormones for over two years now, and they have helped her tremendously. She has grown almost 9" in just over two and one-half years.

Every day is a challenge for all of us, but I am so happy to say that, compared to what we have been through, for the last year or so we

have been able to be a "normal" family with few trips to the doctors! ◆

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.

FA Regional Meeting in Minneapolis

FA families from the United States and Canada attended the FA Regional Meeting at the University of Minnesota Fanconi Anemia Comprehensive Care Center on May 19. Margaret MacMillan, MD, chaired the meeting, and participants were treated to presentations by Sarah Jane Schwarzenberg, MD, on gastroenterology; Lynda Polgreen, MD on endocrinology; and Frank Ondrey, MD, on head and neck squamous cell carcinoma, all issues affecting FA patients. Jo-Ann van Buskirk, MD, Adina Cioc, MD, and Scott Baker, MD, presented on infectious diseases, pathology, and the late effects of stem cell transplantation respectively.

The focus on the late effects of stem cell transplantation was much appreciated by the post-transplant families. Drs. Wagner and MacMillan discussed the stem cell transplantation program at Minnesota for FA patients, including their current clinical trial to reduce radiation in alternative donor transplants. Participants also appreciated the presentations of a panel of FA parents and adult patients.

At the end of the day, the Care Center treated FA families to a delicious dinner and wonderful evening at the Minnesota Science Museum, the highlight of which was Dr. Jakub Tolar's presentation on the research being done at the University of Minnesota to improve methods of correcting bone marrow failure beyond traditional stem cell transplants, including the pioneering use of multipotent progenitor cells.

The evaluations of the meeting were uniformly extremely positive:

- *What I wanted most to gain from this conference was HOPE. Hope for a better future, for my children. The conference did meet these expectations and even went beyond my expectations!*
- *My favorite part of the day was the dinner and presentation at the museum, because it was fun, informal and very interesting.*
- *I hoped to gain more information, and I did just that.*
- *We left feeling much more empowered and less scared of the future bone marrow transplant experience because of the FA team that is so dedicated to the cause.*

We extend our sincere thanks to Drs. MacMillan and Wagner and the team at the University of Minnesota for taking their time to make this Regional Meeting such a success. ♦♦

Blanche Alter's Presence Welcomed at Camp!

Once again, Blanche Alter, MD, MPH, National Cancer Institute, spent the entire five days at Camp Sunshine, making herself readily available for consultation and advice and answering families' many questions. She has generously shared her precious time with us since our very first Family Meeting in 1991!

For our new families and for those of us needing a refresher course, Alter once again presented an overview of Fanconi anemia (FA101). Her excellent summary covering this subject is posted on our website: www.fanconi.org. She also passed out information on Hematology 101. This can be found at: <http://dceg.cancer.gov/files/FA-HEME101-2003.pdf>

We cannot thank Dr. Alter enough for giving so much of her time and professional expertise to the FA community!! ♦♦



Margaret MacMillan, MD

Our Personal Journey with PGD

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and the IVF center you choose to attend. There was obviously some type of error in our case. I know for a fact that one of the twins, Jorja, is the wrong embryo; her HLA typing matches that of the embryo we knew had FA. In science there is always room for error. Those doing the procedures are human, and no one is perfect. I would hate for anyone else to have to go through what we did.

I would be more than happy to speak with anyone who is considering this procedure. If you have any questions and want to know more about our experience, please don't hesitate to get in touch with me.

Sincerely,
Doreen
Jordan 9 FA-A, Julia 3 FA-A,
Jorja 3 FA-A, James 10, Jacob 4
Dflynn518@yahoo.com
(207) 514-0219 ♦♦

Living with FA within a Supportive Community

by Victoria Hathcock

2007 marks the third year my daughter's school has held a Yard Sale to generate research funds for FARE. When Lindsey was diagnosed with FA on July 29, 2004 at Children's Hospital in Birmingham, AL, her father and I were handed a diagnosis we had never heard of and did not understand. Her hematologist, Raymond Watts, gave us two important pieces of information that day: he referred us to Dr. John Wagner in Minnesota and handed us a printout from the Fanconi Anemia Research Fund. These two items have helped sustain us during our FA journey with Lindsey.

Lindsey was 5 pounds, 10 ounces, at birth, with a head full of dark hair and beautiful, soulful eyes. Shortly after her birth, she was taken to the NICU because of an accelerated heart rate and jaundice. She came home after a few days, but soon landed back in the hospital with necrotizing enterocolitis (infection and inflammation that can destroy the bowel) and an intestinal blockage which was surgically removed when she was 28 days old. We figured the worst was behind us and, except for a few viral infections, Lindsey seemed relatively healthy. She does not have any of the outward symptoms of FA, such as hand abnormalities, and looks like a normal, healthy 8-year-old girl, with the exception of her small size. Most of Lindsey's classmates are at least a head taller. Her chronically low platelet count led us to Dr. Watts who, as fate would have it, had diagnosed another child in our area with FA.

The diagnosis of FA was made more scary because so little information was available on this rare condition. We went to the local library and were not able to find any recent information on FA. All articles were

several years old at best and contained grim statistics and no indication of further research efforts. We felt hopeless and completely alone. Then, we went to the Fanconi Anemia Research Fund website and realized that we were not alone. There existed a whole community of folks dealing with this condition on several different levels: some had more than one child with FA; some were in the middle of the transplant process; sadly, some had lost their children to FA; and some FA adults were living full lives with this condition.

The Fanconi Anemia Research Fund became something of a life-line in the weeks and months after Lindsey's diagnosis. We followed the stories of several families and their journeys with FA and the new research developments and medical information through the newsletters and handbooks. The Fanconi Anemia Research Fund helped us find hope when we felt there was none.

Lindsey attends a small private school in our community where she maintains an A average and participates in all regular school activities. She will be starting the third grade in August.

For the last three years we have been blessed to have Mrs. Rena Wooters as Lindsey's teacher. She has taken a special interest in Lindsey, making her feel special but not "different." Lindsey and her classmates are very close-knit, almost like family. The kids realize that Lindsey is smaller than they are, but do not think anything of it—to them she is simply "Lindsey." If another student in the school says anything to Lindsey about her size, she is ready with a response of "there is nothing wrong with being small," naming several advantages to being petite, and her classmates and friends are quick to



Lindsey Hathcock

speak up in her defense, not that she needs much help. Lindsey is very sensitive to other children who look or act different and is compassionate beyond her years, perhaps because she understands to some degree what it feels like to be different.

Mrs. Wooters has played a large part in organizing the annual Yard Sales at the school, spending much of her own time making the necessary arrangements. She and a core group of parents at the school have helped to make this annual event a great success. In doing so, these wonderful people have helped Bob and me not feel so alone during this time of decision-making and waiting for results, and they have been a source of strength for us. It is inspiring to see Lindsey's classmates donate their well-loved toys for the yard sale and help sort and price items. Bob and I are quick to point people to the Fanconi Anemia Research Fund's website to learn more about this condition and the important research taking place, thanks to the funds generated by events such as the Yard Sale at Lindsey's school. ♦

The 2007 Annual FA Family Meeting

Annual FA Family Meeting

continued from page 1

The adults had a bit of time to enjoy the recreation activities of Camp Sunshine. The volunteers prepared a wonderful banquet on Saturday night, at which Lynn Frohnmayer presented a check for \$15,000 to Anna Gould, founder of Camp Sunshine, for so kindly making the facility available to us. FA families were also given *Certificates of Appreciation* for their fundraising efforts. At the end of the evening, the karaoke machine was cranked up, and the many talented parents in the group stepped up to give it their all, to everyone's delight! ♦



Entertaining the crowd



Proud parents photograph their very talented kids at the Talent Show.

"We will always be grateful for our time here."

"Camp is like a big extended family, and it is so nice to see repeat visitors, kids getting to know each other, and families getting the support they need from others."

"What you give the parents in five short days is a huge gift and truly amazing."

"This is such a wonderful place."

"A good time was had by our whole family! We will be back!"

"The program is top-notch and beyond compare.

"Camp Sunshine rocks!!!!"



FA parents Mike Vangel and Kevin McQueen rock out!



Families sailing wishboats, wishing for a cure

Purpose for the Pain: Life after Two Transplants

by Diane Pearl

As we were saying goodbyes at Camp Sunshine in Maine this year, a little girl came running up to Matt, asking for his cell phone number. The adult conversations abruptly ended as we all intently watched the kids (our FA future) interact. I heard her softly whisper that she was scared to go through transplant and asked if she could please call Matt and Alexandra with any questions. They hugged tearfully, and Matt said, "Sure, call us anytime. We will always be there for you." I stood there just stunned. I had asked myself many times, "Why FA?" or, "How can we have two kids with FA? Can we possibly survive two transplants?" I had my answers after this priceless conversation. It was obvious that Matt and Alexandra made it through to give back now, putting purpose to their pain.

As we drove away, Matt and Alexandra happily discussed returning to camp as counselors someday, not blood counts or other medical concerns. Since it seemed that medical concerns dominated the last 13 years, I had not taken time to think about life now as "having made it through both transplants," and it hit me really hard. The kids had never planned or mentioned their future like this before. They never had the luxury or comfort to think very far ahead in their lives.

As we left our FA friends, I was scared, too, and sadly aware we would not all return. The reality of those who do not come back each year keeps us focused and forever preparing for the next phase of FA. We know very clearly it will be "when," not "if," other serious problems arise. I still research and read constantly, but it really is a huge

relief to finally be at this point. I recently cleaned out medical supplies and was so thankful that we would not use them again, that we could let go of past pain and finally move forward, not consumed with FA 24/7. Mark and I worked the very hardest and at the highest capacity imaginable during both kids' transplants. You do not sleep or eat right when consumed with high-level trauma; you simply survive. Mark lost his job, and insurance was a nightmare. Stress was off the chart. There was no time for marriage, other children or "your" life.

Now, there is more peace. There are still many follow-up doctor appointments, but there is more life-than-medical in each new day. I have not figured out exactly who I am now. Just like the medical supplies that stuff our shelves, there is a lot of personal sorting out to do after transplant. Things that seemed important mean little and the outside world can still be confusing. Recently, I cried a mix of sad, happy, but proud and cleansing tears driving home the first day of school when I realized for the first time in 12 years, Alexandra and Matt didn't really need me. The nerve! It was a miracle to have reached this level in our FA journey as I watched them both confidently walk into school, not even looking back at me.

We crammed so much in pre-transplant—always on the alert in case they would not get to see or do this or that—Alexandra and Matt had already experienced a lifetime of memories and trips before transplant. Now, life is easier, slower and calmer. I even yell at them, and it feels really good. There are more choices than obligations. However, support groups



The Pearl family

and friends seemed to go away, perceiving "all is okay," and that was hard for me. But, it is vital to make time to rest and rejuvenate, after your bodies and minds are beat. Do anything to relieve the stress. It helps me to write and journal, but sleep helped the most. Actually, none of us even wanted to go anywhere this past summer. It was just so wonderful to be home, looking no further than our own back yard. Everything we needed was right here. We finally had to put a tent up to get the kids out of the house! We are together, and that is all that matters for the moment.

I encourage you all to live in the moment before, during and after transplant. It is the only sure thing we have, and the best FA lesson I ever learned, not once but twice. I look up and smile, "Okay, I think I got it!"

Thanks to everyone for continued prayers, love and support. As Matt says, we are here for you now. There is so much yet to do, all working together for FA (fighting always). You can contact me at dipearl57@hotmail.com. ♦

In Loving Memory

Denise Senatore Halfek

10/29/74 ~ 5/28/07

John Smith

9/25/95 ~ 4/15/07

Alex Williford

4/5/89 ~ 3/22/07



Minnesota Continues Efforts

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1999, the addition of fludarabine to cyclophosphamide and total body irradiation (TBI) 450 cGy (centigray or rads) increased engraftment and markedly improved survival. However, the late side effects of TBI, including infertility, hormone deficiencies, growth impairment and cataracts, remained.

In a further attempt to improve survival and reduce these late effects, University of Minnesota investigators initiated the first phase of a three-step TBI dose de-escalation study in June 2006.

Thus far, 11 patients (age range, 5.2–19.4) received TBI 300 cGy in combination with cyclophosphamide and fludarabine. All showed engraftment at an average of 11 days. Nine had no acute graft-versus-host disease (GVHD), with mild to moderate GVHD (grade 2-) in two (7/8 matched marrow donor in one and 5/6 UCB donor in the other). No patient has had chronic GVHD. With an average follow-up of just

under one year, the probability of survival is 86%. One patient died after developing an infection with subsequent loss of engraftment.

Having met the predefined safety criteria (graft failure in 0–1 patients), the next group received TBI 150 cGy. Thus far, two patients have been enrolled (ages 7.3 and 22.3 years). Both have engrafted (days 10 and 12), and neither has had acute or chronic GVHD. Both have been discharged but follow up is short.

Together, these results suggest that TBI 450 cGy is not required for consistent engraftment and that lower dose therapy will be sufficient. Even if TBI cannot be eliminated altogether (as has been done for those with HLA matched sibling donors), TBI 300 cGy already represents a new standard of care for FA patients in general. Over the next year, the trial will be completed and the optimal TBI will be defined. Longer follow up will be needed to estimate the exact impact of lower dose TBI on late effects and health quality of life. ◆

MultiStem: Development of a Protocol

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investigations and manufacturing process documents.

The first MultiStem treatment protocol worldwide will be for Fanconi anemia. Athersys, Inc., a biopharmaceutical company, will sponsor the study. The aim is to determine the maximal tolerable dose of MultiStem cells. Doses are based on prior experience with mesenchymal stem cells, a related population of cells. Of note, MultiStem cells have also been shown to support the recovery of bone marrow after transplantation, as well as to inhibit graft-versus-host disease in animals. If these two attributes are observed in humans, the process would significantly benefit patients with Fanconi anemia. Pending final FDA review, we anticipate opening the trial in several months.

Study eligibility includes:

- 1) Diagnosis of Fanconi anemia
- 2) Age <45 years
- 3) Available mismatched related or any unrelated donor
- 4) Presence of bone marrow failure without advanced myelodysplastic syndrome or leukemia ◆

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.

FUNDRAISING

Columbus Health Works Holds “Train Your Trainer”

by Nikki McCarthy

Each year our friends at Columbus Health Works hold a fundraiser called “Train Your Trainer.” This year they were kind enough to donate all the funds raised to the Fanconi Anemia Research Fund. Columbus Health Works is a personal training studio in Grandview, Ohio, run by David Zid and his staff of personal trainers. The trainers are great people most of the time—except halfway through your workout, when you are doubled over in pain!! Their clients donate funds with great enthusiasm to turn the tables and “train their trainers.”

Clients pay \$5 per minute and can have any of the trainers do any exercises they choose. Clients usually come armed with a list of all the things they least like to do, which they make their trainers do! Some of the favorites are one minute on an exercise bike with no seat or one whole minute of push-ups or squats,

to name a couple. Every year one of David’s clients buys an entire hour of time and puts all the trainers through the wringer. The warm-up he chose this year for David and another trainer was to push his car around the block—just under a mile. They also had to park it a few times, before he took them through a very challenging work-out. Unfortunately for David, the end of the block is a slight hill! Again, that was just the warm-up.

The day was very successful and raised about \$2,500. Another donor then matched this sum. Our family is very grateful for the efforts of our friends David and the staff at Columbus Health Works for their generosity to our family by raising funds as well as awareness for Fanconi anemia. Thanks to all who participated in this event.

As for the McCarthy family, Samantha and her brothers



Samantha welcomes her beautiful new brother, Jack

welcomed their newest brother, Jack (Jon Benjamin) into the family in May of this year just after the fundraiser. Samantha is doing well on the oxandrolone trial and had a fun and relaxing summer. ♦



Midas Bucket Golf Tournament

Bret Foster, father of FA patient Dianna Vannostran, organized the Dallas-Fort Worth Midas Bucket Golf Tournament at Indian Creek Golf Course for Midas store owners and employees, managers from DFW AutoZone, and Moroch and Company employees to raise funds for FA research in honor of Dianna. Volunteers who helped with the tournament were Nanette Foster, Dianna and her brothers and sisters, Ryan Foster, Courtney Foster, Kaelynn Foster, and Nicolaus Vannostran.

Harvard Business School's Cornhole Classic Raises Funds and Awareness for Fanconi Anemia

by Ashley Heis

The first-ever Cornhole Classic at the Harvard Business School (HBS) was supposed to take place in four hours! I took a breath and reflected about how and why we had even gotten to this day. In the autumn of 2006, my nephew Vinny Vitiritto was diagnosed with Fanconi anemia. "With what? Well, it's fixable, right?"

We could not dull the pain, let alone begin to understand how deep it went for my sister and her family, but we *did* know we were not okay with just watching time pass. We knew how to throw a party, we thought we could pencil together a tournament, but as for planning a fundraiser...not a clue!

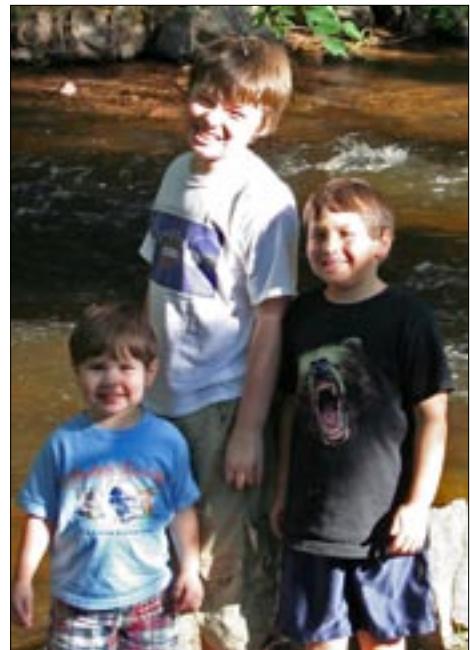
Fortunately, the Harvard Business School provided an ideal setting for planning a blockbuster event. Through working with the HBS Midwest Student Association, we secured a sponsorship from Nationwide Insurance that covered all expenses associated with the event so that the event was free of charge to students. Nevertheless, the HBS community contributed 10% of the total funds raised, while the rest was contributed by friends and family who were excited about the event and eager to build more widespread awareness about FA.

Lo and behold, the event kicked off on time! Forty-eight teams competed in the double elimination tournament with shouts of fierce competition! The objective of the Cornhole game is to toss a square bean bag into a carved-out hole of a 2'x 4' slanted sheet of plywood about 30 feet away. A team scores a point if the bag lands on the board and three points if the bag goes into the hole. Games are played to 11 points.

The competition heated up as the temperature fell, and we all thoroughly enjoyed ourselves. Luckily, we crowned the *Cornhole Classic Champions* just before the sun disappeared and frostbite set in!

It was a great event. Collectively, we raised over \$6,500! A huge thank you to all of our friends across the US, the Mike and Mary Terry Foundation and—most recently—Ventura Associates, who just yesterday bumped us up to \$7,500!

This fall, the Harvard Business School Midwest Student Association will host the Second Annual Cornhole Classic on October 5th. Tim and I are already working toward a new event in Texas, our new home. And, as they say, "Everything is bigger in Texas!" ♦



Cousins Jackson Heis, Tony Vitiritto, and Vinny Vitiritto

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 rider on the family's homeowners insurance policy or through "special events" insurance, both relatively inexpensive. 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 continuing efforts to raise funds to combat this devastating disease.

Family Fundraising Efforts

From January 1 through August 31, 2007, FA families raised \$722,475 for Fanconi anemia research. The Fund also received donations of \$3,367 through the United Way and \$8,362 through the Combined Federal Campaign, for a combined total of \$734,204! We extend our sincere thanks to all the FA families who worked so hard to raise these much-needed funds. Two families have already raised close to \$200,000 each this year, two others over \$60,000 each, and 44 families account for donations of \$1,000 or more. You have done a fantastic job, and we are so grateful for your help.

The challenge continues. Our mutual fundraising goal is \$2.3 million. 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 2007 are the following:

\$100,000 and up

Dave and Lynn Frohnmyer
Kevin and Katie Rogers

\$50,000 to \$99,999

Dan and Nikki McCarthy
Glen Shearer and Peggy Padden

\$25,000 to \$49,999

John and Kim Connelly
Todd and Kristin Levine

\$15,000 to \$24,999

Tanner and Jessica Lindsay

\$10,000 to \$14,999

John and Audrey Barrow

\$5,000 to \$9,999

Ken and Jeanne Atkinson
Chris and Susan Collins
Carol Felmy and Michael Glas
John and Martina Hartmann
Charles and Katy Hull
Lorraine and Kevin McQueen
Mike and Beth Vangel
Joe and Wendy Vitirutto
Kim and Michael Williams

\$1,000 to \$4,999

Mark and Linda Baumiller
Jeffrey and Donna Boggs
Mike and Kerrie Brannock
Donald and Danielle Burkin
Tyler and Teresa Clifton
Ed and Janice Duffy
Susan Gannon
Alan and Rachel Grossman

Bob and Victoria Hathcock

Brian Horrigan and Amy Levine

Saundra Jackson

Beth and Jeff Janock

Erik Kjos-Hanssen and Turid Frislid

Lynette and Gregory Lowrimore

Deane Marchbein and Stuart Cohen

Adam and Olivia Mindle

Jim and Holly Mirenda

Matt and Andrea Morris

Tyler Morrison and Rachel Altmann

Jack and Lisa Nash

Fred and Nancy Nunes

Derek and Ginger Persson

Peter and Janice Pless

Marcia Reardon

Les and Nancy Ross

Lynn and Rick Sablosky

Bob and Andrea Sacks

Bill and Connie Schenone

Matt and Diane Senatore

Bryan and Karen Siebenthal

William and Mary Underriner

Up to \$999

Andrew and Vicki Athens

Cherie Bank

James and Tracy Biby

Randy and Nancy Bloxom

Bob and Carole Cavanaugh

Lezlie Chesler

David and Kim Chew

Jeanette Clark

Bill and Pat Danks

Donna DellaRatta

James and Carol Dillon

Pat and Mary DiMarino

Antonino and Marie DiMercurio

Frank and Susan Dixon

Sandra and Lindsay Dunn

Gene and Lynn Eddy

Sharon Ellis

Kay Eubanks

Justin and Britteny Ferrin

David and Mary Ann Fiaschetti

Stephen and Doreen Flynn

Nanette Vannostran Foster and Bret Foster

Gary and Melody Ganz

Maria Godwin

Allan and Lori Goldberg

Andrew and Jennifer Gough

Jack and Tina Greer

Mitchell and Tirzah Haik

Owen Hall and Margaret Kasting

John and Raquel Hanna

Roger and Eleanor Herman

Peter and Tara Himmelreich

Leardon Keleher

Kayla Lackey

Peg LeRoux

Larry and Gayle Licari

Eric and Beth Losekamp

Bill and Jackie Lucarell

Raul Martinez

Steve and Allison McClay

Gianna and Lauren Megna

Charles and Cecelia Meloling

Griff and Cecilia Morgan

Kenny and Lisa Myhan

Tony and Lina Nahas

Bob and Alice Nicholson

Robert and Mary Nori

Kevin and Lorraine O'Connor

John and Dianne Plotz

Michael and Kay Proctor

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 honored 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 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 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 non-profit MissionFish program. 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 that participates in either of these campaigns, 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.

Lynn and Shirley Quilici
Stephanie Race
Mario and Yolando Ramirez
Jan and Leonard Riley
Maureen Russo
Erik and Lori Salo
Richard and Dolores Satterlee
Chris Scuff
Thomas and Brenda Seiford
Mokrane Simoussi
Jim and Carol Siniawski
Chris and Amanda Smith

Richard and Janice Thomas
Mark and Susan Trager
Melissa Turner
Tom and Kathy Uno
Gerald and Betty Wisz
Sean and Kristin Young ◆

Upcoming Fundraisers for FA Research

October 29: Captain's Choice Golf Tournament, Richmond, VA

Play for FA, with PGA Golfer John Rollins. Contact: Kevin McQueen, at kmcqueen@captechventures.com.

November 10: Casino Night and Silent Auction, Richmond, VA

Play for FA at The Renaissance, Richmond. Contact: Kevin McQueen at kmcqueen@captechventures.com.

November 17: The Kendall and Taylor Atkinson Foundation's Brave Hearts 2007 Hoot 'N Holler, Denver, CO

A western-themed night with silent and live auctions, food, entertainment, dancing, and Texas Hold 'Em. Contact: Ken & Jeanne Atkinson at 303-349-1309 and Jack & Lisa Nash at 303-773-6228.

February 10: Third Annual Artisans for Abby, Isanti, MN

Silent auction of artisan crafts. Contact: Kim Williams at mktal1996@gmail.com.

February 10: Fourth Annual Valentine Fanconi Anemia 5K Run/walk, Portland, OR

Contact: Peg Padden at pegpadpad@hotmail.com.

February 16: 1st Crop for FA and Silent Auction, Tahlequah, Oklahoma

Scrapbooking crop and silent auction using scrapbooking supplies and kits. Contact: Racquel Hanna at jrhanna2000@sbcglobal.net.

April 27: 8th Annual Toronto Fundraiser to Support Fanconi Canada

Fabulous three-course dinner, silent auction, and the Ron David Quartet. Details at: <http://www.fanconicanada.org/en/inf71.php>.

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

Caddy for a Cure

The mission of Caddy for a Cure, Inc, is to generate charitable funds for designated organizations while offering the opportunity to be "inside the ropes" as a caddy for a Tour player at a PGA Tour event. It offers a one-of-a-kind professional sports fantasy while contributing to genetic disease research, education, and other worthy causes. Contact: Russ Holden at russholden@aol.com.



**Fanconi
Anemia**

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