

National Cancer Institute



**Clinical Genetics Branch**

Division of Cancer Epidemiology  
and Genetics

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# Inherited Bone Marrow Failure Syndromes

Studying Families with  
Rare Blood Disorders  
and Risk of Cancer

U.S. DEPARTMENT  
OF HEALTH AND  
HUMAN SERVICES

National Institutes  
of Health

## PURPOSE

The National Cancer Institute (NCI) is sponsoring the largest North American study of its kind to focus on people with rare inherited bone marrow failure syndromes (IBMFS) and their immediate family members. This large group, or cohort, is called the NCI IBMFS Cohort. The study's purpose is to:

- Examine the underlying genetic disorders of those diagnosed with an Inherited Bone Marrow Failure Syndrome (IBMFS) and their families
- Analyze how certain factors can affect the course of these syndromes, particularly the connection between these disorders and cancer
- Follow families over a period of years

## WHO IS ELIGIBLE?

People with an IBMFS often have some form of aplastic anemia, in which the bone marrow fails to produce blood. The most common of these inherited syndromes include:

- Fanconi Anemia
- Diamond-Blackfan Anemia
- Shwachman-Diamond Syndrome
- Dyskeratosis Congenita
- Severe Congenital Neutropenia
- Thrombocytopenia Absent Radii
- Amegakaryocytic Thrombocytopenia
- Pearson Syndrome
- Bone Marrow Failure Other Than Acquired

Although these are mostly diseases of the blood and bone marrow, people with these disorders also have a high risk of cancer, such as leukemia and solid tumors.

By taking part in this long-term study, patients and their families can learn more about their condition, as well as have the opportunity for appropriate cancer screening.

Adults and children with any of these diagnoses, as well as their close relatives, are invited to join the study. People who are newly diagnosed, and surviving relatives in families where the patient may have passed away are also welcome.

## SEEKING MORE ANSWERS

The NCI hopes to answer a number of questions about cancer in people with IBMFS, such as:

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| <b>Who</b>   | Which patients (and which relatives) will develop cancer?                    |
| <b>What</b>  | What kinds of cancer occur in different patients and in different syndromes? |
| <b>Where</b> | Where does cancer appear?  |
| <b>When</b>  | At what age are patients most likely to develop which kinds of cancer?       |
| <b>Why</b>   | Why does cancer develop?   |
| <b>How</b>   | How do IBMFS genes and the environment interact?                             |

## PARTICIPATING IN RESEARCH

Everyone who joins the NCI IBMFS Cohort will initially belong to the Field Cohort. Those who come to the NIH Clinical Center will become part of the Clinical Center Cohort, while those who do not come will remain in the Field Cohort.

A family contact will be asked to provide information about the family's overall medical history. Those with the disorder and immediate relatives will be asked to provide more detailed individual medical information.

For people in the Clinical Center Cohort, the NCI will offer:

- Complete physical examinations, blood and bone marrow studies, imaging, age-appropriate cancer screening and consultation with a team of specialists
- Genetic counseling and an opportunity to learn the results of mutation testing
- Results of clinical tests and cancer screening
- Education on possible ways to reduce cancer risk

The purpose of this study is to identify the relationship among genes, physical examination and laboratory findings, and the risk of getting cancer. Although treatment is not part of the study, options will be discussed with participants.

The NCI will also provide assistance in establishing care with appropriate physicians as needed. Study participants should remain under the care of their primary doctors while participating in the study.

## **CONTINUING THE DIALOGUE**

Participants and families will be asked to complete a regular follow-up form in order to update medical and cancer information.

It will be possible for families to change from the Field Cohort to the Clinical Center Cohort. Members of both cohorts will be able to ask questions and stay in communication with the research team.

Anything of clinical significance that would change a patient's current treatment or screening for cancer will be shared with participants. The overall findings of the study will be provided to participants when the analysis is completed.

## **OTHER DETAILS**

### **Confidentiality**

NCI is required by Federal law not to reveal any information that is collected from study participants to anyone other than to persons directly involved with the study. No information that could allow identification of any specific individuals will be released or published.

### **Costs**

All study-related medical expenses and travel costs to the NIH Clinical Center for participants and immediate family members, or primary caregivers, are paid by NCI.

## ABOUT THE RESEARCH TEAM

**Blanche P. Alter, M.D., M.P.H.**, is the lead investigator for this study. An expert in pediatric hematology/oncology in the NCI Clinical Genetics Branch, she has been caring for and studying patients with bone marrow failure disorders for more than 35 years.

### Co-Investigator

**Sharon A. Savage, M.D.**, directs the dyskeratosis congenita component of the study. She has identified several new genes involved in this disorder.

### Associate Investigator

**Neelam Giri, M.D.**, supervises all clinical aspects of the study.

### Other Associate Investigators

Investigators at NIH and other medical centers also work with our research team to provide comprehensive evaluation for people with these complex, multi-system disorders.

## FOR MORE INFORMATION

Phone: **1-800-518-8474** and ask for the Referral Nurse

International: **301-212-5250**

(please call collect 9 a.m. to 5 p.m. EST)

Email: **NCI.IBMFS@westat.com**

Web site: **www.marrowsfailure.cancer.gov**



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