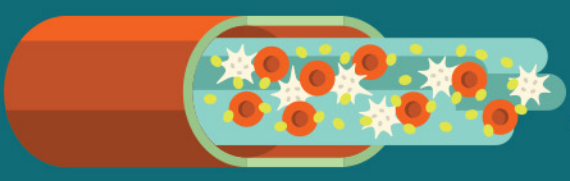
CHANGE YOUR PROGNOSIS. KNOW YOUR MPN.

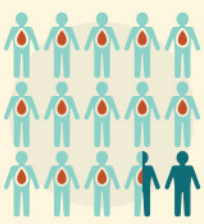
Every person facing cancer deserves a partner in the fight. MPN Research Foundation's education and clinical trial information improve patient lives today, while ground-breaking research offers hope for a better tomorrow — and today's the day to be proactive when it comes to your MPN!



ESSENTIAL THROMBOCYTHEMIA is a chronic myeloproliferative neoplasm (blood cancer) **CHARACTERIZED BY AN INCREASED NUMBER OF PLATELETS** in the circulating blood.

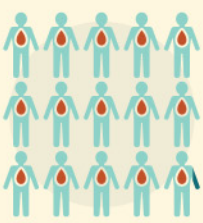
MORE THAN **300,000 U.S. PATIENTS** ARE LIVING WITH AN MPN. = 10,000 PEOPLE AFFECTED

ET
ESSENTIAL THROMBOCYTHEMIA



135,000 PEOPLE

PV
POLYCYTHEMIA VERA



148,000 PEOPLE

MF
MYELOFIBROSIS

18,000 PEOPLE

MANY PATIENTS ARE ASYMPTOMATIC. **HOWEVER SOME COMMON ET SYMPTOMS INCLUDE:**

THROMBOTIC COMPLICATIONS CAN ALSO OCCUR, resulting in stroke, transient ischemic attack (TIA), heart attack, deep vein thrombosis or pulmonary embolus (blood clot in the lung) and blood clotting in unusual locations.

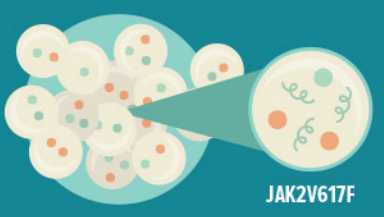
- HEADACHE
- VISION DISTURBANCES OR SILENT MIGRAINES
- DIZZINESS OR LIGHTHEADEDNESS
- BURNING, REDNESS AND PAIN IN THE HANDS OR FEET
- COLDNESS OR BLUENESS OF FINGERS OR TOES
- MILDLY ENLARGED SPLEEN

ET is often diagnosed after a routine blood test shows that a **PATIENT HAS A HIGH PLATELET COUNT.**

A SMALL MINORITY OF PEOPLE WITH ET MAY LATER **DEVELOP ACUTE LEUKEMIA OR MYELOFIBROSIS,** WHICH ARE MORE ACUTE AND POTENTIALLY LIFE THREATENING.

People with essential thrombocythemia have an **EXCELLENT CHANCE OF LIVING OUT A NORMAL LIFESPAN** if properly monitored and treated as necessary.

ET is a chronic blood cancer and should be **MONITORED REGULARLY BY A HEMATOLOGIST** who has experience with MPNs.



About half of all people with essential thrombocythemia have a mutation called "JAK2V617F" (found in the JAK2 gene) within their blood-forming cells. **THIS MUTATION LEADS TO HYPERACTIVE JAK (JANUS KINASE) SIGNALING AND LEADS TO MANY OF THE CHARACTERISTIC FEATURES OF THE DISEASE.** The end result is that the body makes the wrong number of blood cells.

ABOUT 23.5% OF PEOPLE WITH MYELOFIBROSIS AND ESSENTIAL THROMBOCYTHEMIA HAVE A MUTATION CALLED CALRETICULIN, OR CALR.

THIS GENETIC MARKER WAS DISCOVERED IN 2013 BY TWO INDEPENDENT LABORATORIES, INCLUDING ONE FUNDED BY MPN RESEARCH FOUNDATION.

SOME EPIDEMIOLOGICAL RISK FACTORS ASSOCIATED WITH ET INCLUDE THE FOLLOWING:

GENDER

WOMEN ARE 1.5 TIMES MORE LIKELY THAN MEN.

AGE

PEOPLE 60+ ARE MOST LIKELY TO DEVELOP THE CONDITION.

WHAT SHOULD I ASK MY DOCTOR?

- IS MY DISEASE UNDER CONTROL?
- WHAT WILL TREATMENT DO FOR ME?
- HOW CAN I TELL IF MY TREATMENT IS WORKING?
- WHAT ARE THE SIGNS OF PROGRESSION?
- WHAT INFO SHOULD I TRACK?
- WHERE DO I GO TO GET INFORMATION?

MPN Research Foundation's focus is to simulate research in pursuit of new treatments — and eventually a cure — for Essential Thrombocythemia (ET), Polycythemia Vera (PV), and Myelofibrosis (MF); collectively known as myeloproliferative neoplasms (MPNs). To date, the Foundation has awarded $10.5 million for MPN research and is currently funding over 55 research projects, supporting 53 researchers, and engaging 31 institutions globally.

MPN RESEARCH FOUNDATION | To learn more, visit MPNResearchFoundation.org.

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