

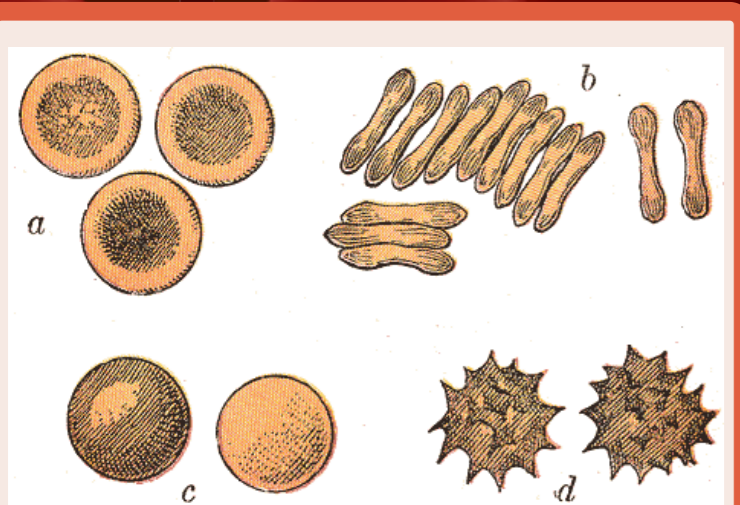
The blood is the fluid transported in the vascular system of the body. It is made up of plasma, cells, gasses, minerals, proteins, hormones and more. The blood delivers nutrients and oxygen to cells and carries waste products and carbon dioxide away from them.

The blood may be seen as a window into some of the physiologic non-thermal effects of EMF. There are changes in the structures and functions of many cell types (and their organelles) as well as the quality and quantity of substances carried in the plasma.

There are probably a number of mechanisms involved in these EMF effects, (most of which are the subjects of other maps):

- free radical injury and tissue responses, NO/ONOO cycle effects
- shifting of methylation and glutathione cycles
- abnormal hormonal cascades of many kinds
- mitochondrial oxidative stress cascade
- alteration of membrane/receptor functions
- changes in morphology and/or behavior of cells
- alterations in behavior of interfacial water molecules

This map presents an overview of some the limited research available on EMF effects on the blood cells and other components.



Normal RBCs, rouleau, other abnormalities

VIDEOS:

- [LIVE BLOOD ANALYSIS, EMF](#)
- [LIVE BLOOD, CELL PHONE EMF](#)
- [LIVE BLOOD ANALYSIS, SMART METERS](#)
- [DR. RUBIK: WIRELESS DEVICES, BLOOD](#)

Home: [Oscillatorium](#)
Newest version [this map](#)
Date of this update: 10-16-17

EMF EFFECTS

BLOOD FACTORS

- Ferritin decreased
- Histamine levels increased
- Homocysteine increased
- Hepatic enzymes increased
- Increased serum glucose

HORMONES

- Insulin levels altered
- Serum cortisol increased
- Melatonin decreased
- Decreased progesterone
- Decreased estrogen
- TSH and thyroid hormones

BLOOD PROPERTIES

- Rouleau formation
- Adhesion changed
- Repair of cells slows
- Viscosity increased
- Osmotic fragility decreased
- Intracellular conformation changes

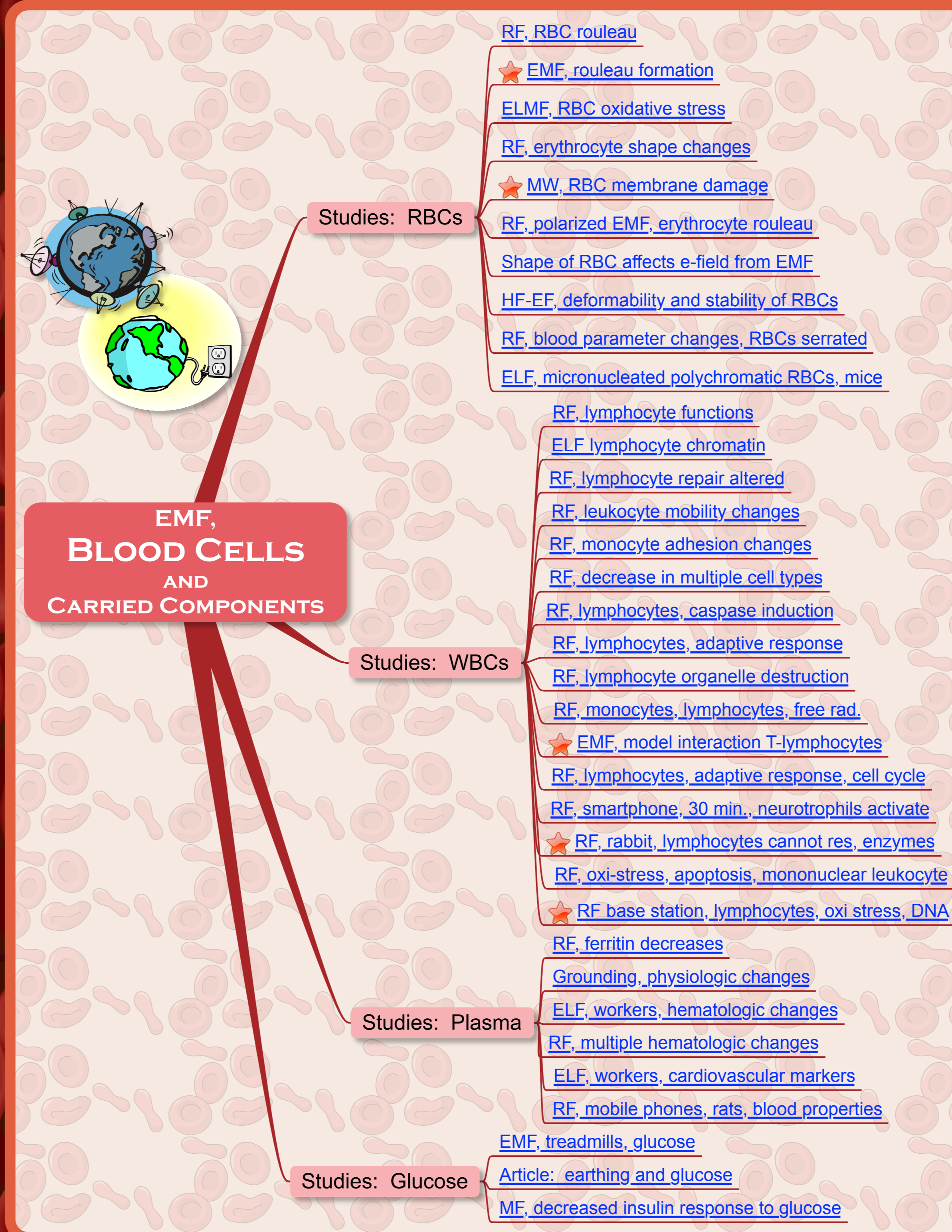
BLOOD COMPONENTS

CELLS AND CONTENTS

- Red blood cells
- White blood cells
- Platelets
- Hemoglobin
- Glycosylated hemoglobin

PLASMA COMPONENTS

- Glucose
- Calcium
- Magnesium
- Electrolytes
- Hepatic enzymes
- Antibodies
- Proteins and routine biomarkers
- Tissue injury markers
- Free hormones, protein carriers
- Vitamins and metabolites
- Lipids and lipoproteins



Studies: Hormones

- [MW, change in serotonin level](#)
- [ELF MF, dentists, serum cortisol](#)
- [RF, hamsters, hormonal changes](#)
- ★ [EMF, histamine, heat shock proteins](#)
- [RF, rats, decreased thyroid hormones](#)
- [RF, male, follicle stimulating hormone](#)
- [MW, mice, change in glucocorticoid level](#)

Hematopo. tissue

- [Adult Leukemia and EMF](#)
- [RF, bone marrow toxicity](#)
- [RF, hematopoietic malignancies](#)
- [RF, cell proliferation, differentiation](#)
- [ELF-EMF, erythro-leukemic changes](#)

Platelets

- [MW, platelet aggregation](#)
- [MW, platelet oxygen metabolism](#)
- [RF, smartphone, 30 min., pl. function](#)

CBC, WBC Differential [Incr. RBC, Shift WBC](#)

Other

- [Vasodilatory reserve and RF](#)
- ★ [Mobile waves thicken blood](#)
- [MW, literature review of effects](#)
- [Decreased O2 affinity of Hb, RF](#)
- [Altered Hb, pseudo-Fe deficiency](#)
- [EMF, accuracy of glucose monitors](#)
- ★ [RF, multiple parameters affected](#)
- ★ [RBC membrane target for HF-RF, nano's](#)

- RELATED MAPS:**
- [DNA](#)
 - [MEMBRANES](#)
 - [CALCIUM EFFLUX](#)
 - [IMMUNE SYSTEM](#)
 - [INTERFACIAL WATER](#)
 - [HISTAMINE ALLERGIES](#)
 - [FREE RADICAL INJURY](#)
 - [MELATONIN HYPOTHESIS](#)
 - [AUTONOMIC NERVOUS SYSTEM](#)

- BIOINITIATIVE REPORT:**
- GENOTOXIC EFFECTS
 - EFFECTS ON MELATONIN
 - EFFECTS ON IMMUNE FUNCTION
 - CHILDHOOD CANCERS (LEUKEMIA)
 - GENE AND PROTEIN EXPRESSION

- ARTICLES:**
- [RBCs AND SMART METERS](#)
 - [EMF AND CHANGES IN CBC](#)
 - [SHORT TERM CELL PHONE, BLOOD](#)
 - ★ [EHS PHYSIOLOGICALLY EXPLAINED](#)
 - [BLOOD TESTS TO THWART TOWER?](#)
 - [DR. HAVAS: EMF, TODAY'S ACID RAIN](#)
 - [WESTON PRICE: CELL PHONES, BLOOD](#)
 - [DR. KRUSE: MENOPAUSE, EMF, FERRITIN, ESTROGEN](#)