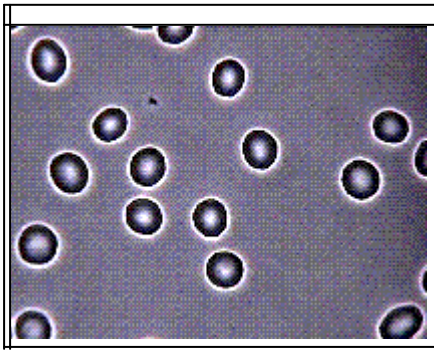
Live Blood Under the Microscope

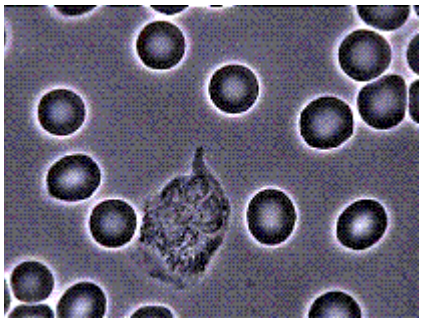
It's true that an individuals life and health energies show in the drops of their blood. Using high powered video microscopes to evaluate the shapes and other properties of individual blood cells can be very revealing. Often things are noticed that are never seen using traditional methods of blood screening. In itself, live blood screening with microscopy is not a diagnostic procedure. However, it can often point you in a direction to take for further diagnostic testing. For our purposes, we simply want to view the "terrain" of the blood to catch a glimpse of the overall "toxic load" and consequent state of health of our client. Of the information that follows in this section, some is found in medical physiology textbooks and is taught in hematology and microbiology classes. Some of the information (particularly that which deals with nutritional aspects of blood morphology) is usually taught to health professionals through continuing education and alternative type programs. As traditional medical and dietetic training is generally inadequate and often based on incorrect assumptions about health, these alternative programs serve as a much needed venue to disseminate this information. It can be controversial. I say controversial because the definitions, findings, causes, and correlation's are often the subject of debate. On one hand there is traditional hematology, on the other is standard hematology overlaid on a nutritional framework with different ways of thinking about health and disease. There are varying perspectives of what the observed morphology actually means. Some are correct, some are not. Further complicating matters, many microbiologists seem to work in a vacuum. Three microbiologists may see or have discovered the same thing, but they each call it by a different name. Going further, some biologists have entertained entirely different philosophies. When the serious student of health begins to dig into all aspects of healing, he inevitably unfolds the theories of disease and concepts of microbial pleomorphism as espoused by individuals like Guenther Enderlein. Enderlein was a German microbiologist who did the most extensive and exacting scientific work in this area. I refer to it as the German biological perspective. For purposes of truly understanding blood morphology, this area of study is an absolute necessity. Unfortunately, American hematology and medical students do not get this training. Consequently, the American health system is absolutely ignorant of what is likely the biological reality behind a majority of disease processes. This following material takes you into all of these areas. The intent is to give you a solid foundation in which you can further pursue each area as you desire. The majority of what follows has explanations from standard hematology, expanded views from the medical perspective, and associated thinking and suggested tests that may be run by a traditional medical practitioner (and some tests used by alternative practitioners) if he/she were to have a specific microscopic finding. For the most part, this aspect reflects an allopathic, symptomatic, name the disease mentality which for many cases, is unnecessary for getting a sick patient well. During the workshop, you will have the benefit of instructor clarifications and

expanded insights. Additionally, I've included a brief overview of the "alternative" biological perspective for each microscopic finding. After researching blood morphology for months on end, viewing live blood for untold hours, watching biological relationships unfold, meeting and discussing these issues with other alternative practitioners, it is of my personal opinion that the alternative view is the correct perspective in which to view blood morphology and the biological processes which happen within. Blood references: For the traditional hematological perspective, "Dailey's Notes on Blood", by John F. Dailey; For the alternative biological perspective and insight in the work of Guenther Enderlein, "Blood Examination in Darkfield", by Marie Bleker, "Introduction into Darkfield Diagnostics", by Cornelia Schwedtle and Franz Arnoul, and course notes from various workshops. For the more traditional medical view, "The Internist" June 1996, Position Statement of the Council on Diagnosis and Internal Disorders of the American Chiropractic Association. ***STANDARD HEMATOLOGY - BLOOD BASICS***

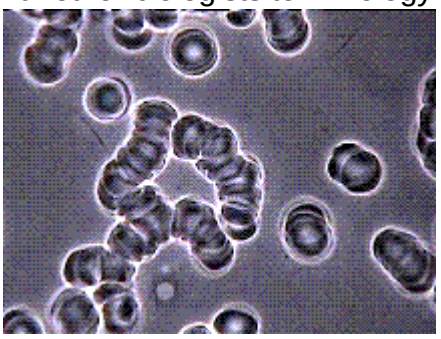
Blood is the fluid that circulates through the heart, arteries, capillaries, and veins. It is the chief means of transport within the body. It transports oxygen from the lungs to the tissues, and carbon dioxide from the tissues to the lungs. It transports nutritive substances and metabolites to the tissues and removes waste products to the kidneys and other organs of excretion. It has an essential role in the maintenance of fluid balance. Blood varies in color from an oxygenated bright red in the arteries to a duller red in the veins. The total quantity of blood within an individual depends upon the body weight. A person who weighs 150 lbs. has about 5 quarts of blood in the body. Plasma accounts for about 55 percent of the total volume of the blood. It consists of about 92 percent water, 7 percent proteins, and less than 1 percent inorganic salts, organic substances other than proteins, dissolved gasses, hormones, antibodies, and enzymes. The suspended particles of the blood comprise the other 45 percent of the total volume of blood. They include erythrocytes (red blood cells), leukocytes (white blood cells), and platelets (thrombocytes). Red blood cells originate in the red bone marrow and are stored in the spleen which acts as a reservoir for the blood system. The average red cell has a life of 110 to 120 days. Aged red cells are ingested by macrophages in the spleen and liver. The iron is reclaimed from the dead red cells and then transported by the plasma back to the marrow where it is incorporated into new red cells. The great majority of the cells in the blood are red blood cells. Leukocytes (white blood cells) originate in the bone marrow and lymph tissue. White blood cells are actively engaged in the destruction or neutralization of invading micro-organisms and are then transported to sites of infection and inflammation. For this reason, their life span in the blood in usually very short (a life span of up to 14 days). When infection is present their number are greatly increased and they also become more mobile and move back and forth between the blood, lymph, and tissues. White blood cells come in various shapes and sizes: Granular appearing white cells are known as Neutrophils, which make up about two thirds of all white blood cells; Eosinophils which make up about 2 to 4 percent of the white cell count; and Basophils - which make up less than 0.5 per cent of the white cell count. Non-granular appearing white cells are known as Lymphocytes. These are the natural killer cells and make up about 25-30% of all white blood cells. Two types of lymphocytes T's and B's are involved in immunity. Platelets or thrombocytes are small, clear, disk-shaped bodies about one-third the size of red blood cells or even smaller and play an

important role in blood coagulation and clot formation. One of the most important properties is its self-sealing ability to repair a leak in a blood vessel. The life span of a platelet ranges from eight to ten days. ***RECORDING LIVE BLOOD - SALIVA pH*** When the blood is brought up on the microscope for study, it is a good time to also take a reading of your clients Saliva pH. You'll remember from the Rot & Rust Workshop (the pre-training session to this course) that pH controls many things in the body. If the pH is off, many bodily processes can also be off. Also, if internal parasite activity (endobiosis) is seen in the blood, it could be that the pH in the blood has been thrown off for some time and it's something you would definitely want to correct. We'll learn more about this when we cover biological terrain. Hours since last meal _____ Saliva pH _____ In doing this little test, it becomes an appropriate time to introduce simple dietary/pH education. It is also the time to introduce the concepts of "biological terrain" and can set up the patient for more thorough urine/saliva testing. (This assumes you have not already pre-educated your patient and have not yet included the urine/saliva testing as part of your work-up.) ***RED BALL TEST*** The red ball test was something given to soldiers during the civil war. If a soldier said he was too sick or weary to fight, he would get his finger pricked with a pin to see if the blood beaded up on the finger or if it was runny with no beading. If it beaded up, the soldier was considered healthy and was given his weapon and sent into battle. If there was no bead, he was sent to the recuperation tents. You can make note of a quick "red ball test" when a drop is taken from the finger. When a drop of blood appears on the finger it should bead up. If the ball is absent it can indicate: -low protein due to: lack of protein in diet, -poor digestion (lack of digestive enzymes), -kidney problems, -anemia (low blood iron.) ***"READING" LIVE BLOOD*** It is absolutely fascinating to watch the play of life at the cellular level. When you see the indicated item or activity listed below, the contributing factors or causes shown are correlated to have been found in most cases. Certainly variations may occur in individual situations. Reading live blood in this fashion can really be considered more of an art than a science. **Remember:** You are not learning a diagnostic procedure for any medical malady. A medical diagnosis *cannot* be made by looking at live blood under a microscope. The real benefit of this procedure is to demonstrate in a very visual way the realities of health to your client which will make a lasting impact and will lock them into understanding and complying with your suggested protocol. That is all. ***THE PICTURES OF BLOOD***

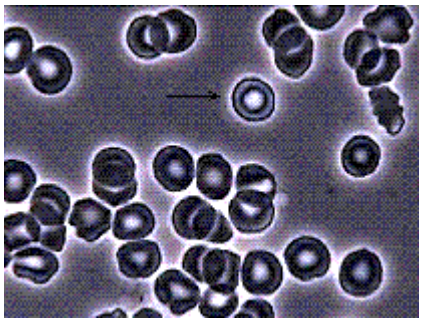


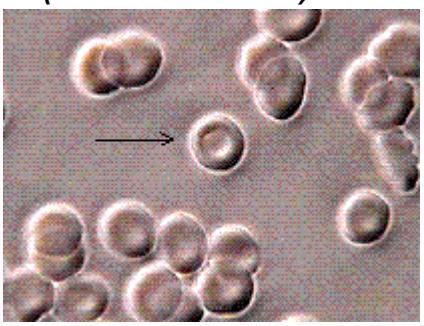
The red cells are predominately uniform in size and shape and appear as round circles on a gray background. The center of the cells are lightened somewhat and slightly off white in color. They reside freely in their own space, not overlapping or sticking together, but gently bouncing off each other. The white cells (neutrophils) are about as large as two red cells and have a rather grainy appearance with 3 to 4 dark, irregularly shaped lobes inside the cell. Rather than being round, they display many different shapes and are active and moving, In normal blood there are about 700 to 1000 red cells to every white cell. The blood serum surrounding the cells is clear without parasites, bacteria, clots, or other undesired floating masses. Platelets are free floating. **NOTE:** Concerning the names given to the items that follow, the most widely known terms with hematological reference have been listed first. Since we are also studying the pleomorphic reality behind blood elements, the naming convention of Professor Enderlein has also been listed. This will give us more or less a standard which we can use for naming these biological entities. When appropriate an AKA ("also known as") has been added with other biologists terminology. ***RED BLOOD CELLS - ROULEAU***



RBC ROULEAU - Stacked RBC's. Worse stage of protein linkage. CAUSE: Same as previous page, protein linkage. Often poor protein digestion. The pancreas may be off. Excess dietary protein, poor assimilation. Eating too much animal protein. Blood too toxic (altered blood pH-zeta potential down) from stress, coffee, cigarettes, meat, etc. Dehydration, not drinking enough water (which by the way, is one of the top undiagnosed causes of many ailments). Eating the wrong foods for the blood type, e.g. wheat consumption by type O's, beef consumption by type A's, etc. SIGNS: Fatigue, shortness of breath - RBC's cannot carry oxygen; stress on heart. Cold hands/feet - poor circulation. MED PERSPECTIVE: Peripheral blood erythrocytes often display the phenomenon of rouleau formation and exhibits a specific role in the pathogenesis of some disease. Plasma fibrinogen and Immunoglobulins are some of the potent rouleau-inducing agents. Some industrial poisons such as benzene, parathion & carbon tetrachloride not only increase this phenomenon but also cause thrombotic and hemorrhagic manifestations as well. Patients suffering from allergies, infections and severe trauma may exhibit rouleau. The presence of massive rouleau can be detrimental to patients suffering from occlusive vascular

diseases as it causes impairment of blood flow in the small vessels that can compromise the red blood cells ability to exchange carbon dioxide and oxygen gases. This results in localized hypoxia and acidosis as well as generalized fatigue and less than optimum performance. Severe or massive rouleau is not infrequently found in patients with hyperglobulinemia and may be seen in many disease states ranging from arthritis, multiple myeloma, diabetes, myocardial infarction and in patients with increased alcohol intake. The erythrocyte sedimentation rate (ESR) is usually increased because of the increased ratio of mass to surface area resulting in rapid rouleau fallout from the plasma. ADD'L TESTS: Cholesterol, Triglycerides, WBC, ESR, SGPT, SGOT, Globulin, A/G Ratio. As rouleau may be caused by acute phase protein elevations in the blood, the possibility of serious disease complications exist when is does not respond to nutritional therapy. If rouleau does not disappear after a maximum of seven days and there is no evident tissue inflammation, tissue damage or tissue necrosis, additional testing can be conducted to rule out arthritis, arteritis disease, choecystitis, cirrhosis, diabetes, endocarditis, rheumatic diseases, rheumatic heart, hepatitis, hyperthyroidism, chronic infection, nephritis, systemic lupus, ulcer, colitis, neoplastic disease. ALT VIEW: You will recall that the primary parasitic element of the blood, the endobiont, in its myriad forms, possesses an inherent urge to merge. When red blood cells become infested with the primary parasite, their urge to merge pulls the RBCs together. This accounts for the lemon shapes from the prior page, rouleau formations as shown here, and RBC aggregation as indicated on the next page. ***RED BLOOD CELLS - CODOCYTES (TARGET CELLS)***

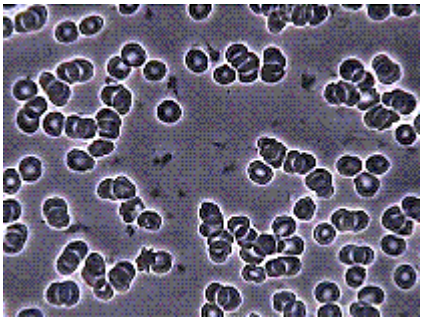




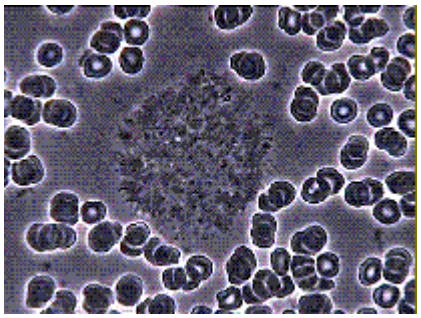
Differential Interference Contrast 3D Perspective - E.

APPEARANCE: These are red blood cells that contain a bright white center encircled by a dark ring that makes it look like a target. The center of the cell does not pulsate or fade in and out, it remains static and bright white. CAUSE: May be caused by increased cholesterol and lecithin content, bile insufficiency, liver disease, splenectomy or anemia. The lack of pulsation in the middle of a target cell as opposed to a healthy specimen is due to the fact that the cell membrane has collapsed on itself. This is thought to be due to a lack of iron/hemoglobin. The picture on the right is a more 3 dimensional perspective which better shows the severe concave, donut like nature of a target cell. SIGNS: Anemia, tired, low energy. MED PERSPECTIVE: Codocytes are erythrocytes that exhibit a dark circular "target" pattern. Marked elevations of target cells is the result of a shift in the exchange equilibrium between the red cells and cholesterol. Conditions that reduce lecithin-cholesterol acetyltransferase production, or interfere with enzyme mechanisms of performance results in elevation of red cell cholesterol and serum phospholipid ratios. Further, the bile salts content ratio in the plasma can affect the exchange between cholesterol and the red cell membrane. Target cells are seen in hypochromic anemia, liver disease and on occasion following splenectomy. Erythrocytes with this configuration are cells lacking iron, therefore any disease process which affects red cell iron absorption may produce target cells. Disruption of hepatic lecithin-cholesterol acetyltransferase production in the alteration of bile acid concentrations due to biliary obstruction can account for increased red cell lipid deposition. The spleen also influences the regulation of erythrocyte lipid content. ADD'L TESTS: CBC with differential, serum iron, serum transferrin, serum ferritin, and liver profile (SGPT, GGT, SGOT, LDH, Alkaline phos-phatase). ALT VIEW: Target cells have become parasitized by the endobiont.

PLATELETS; THROMBOCYTES; THECITS *(Enderlein) (Also referred to as Colloid*



Symplasts when aggregated - Enderlein)



STANDARD HEMATOLOGY: Platelets, or thrombocytes, are small, colorless, enucleated bodies. They are produced in the bone marrow by fragmentation of megakaryocytes. Megakaryocytes are large cells found in bone marrow that produce platelets by fragmenting their cytoplasm. Platelets play a vital role in the hemostatic process, which prevents blood loss. When the endothelial lining of a blood vessel is traumatized, platelets are stimulated to go to the site of injury, where they form a plug that helps reduce blood loss. APPEARANCE: Platelets are typically very dark to black under phase contrast, are not quite circular, nor square, and range in size from 2-4 microns. **PLATELET EXCESS** - When the platelet count increases the condition is known as thrombocytosis. This may occur in certain disease states such as cancer, chronic infections, and certain blood diseases. It may cause increased blood clot formation. **PLATELET DEFICIT** - When platelet count decreases a condition called thrombocytopenia occurs. This may happen either as a result of decreased platelet production (e.g., bone tumor, chemotherapy) or excessive platelet destruction (e.g., transfusion reaction, immune response). **PLATELET/THROMBOCYTE AGGREGATION**. CAUSE: High triglycerides, excessive red meat, stress, caffeine, sodas, chocolate, etc. SIGNS: Circulation, capillary blockage, blood clots, heart. MED PERSPECTIVE: Severe platelet aggregation can be a potentially serious finding. Platelet aggregation can contribute to cardiovascular disease which is the number one cause of death in the western world. Several organic substances may promote platelet clumping which include collagen, ADP, the catecholomines, certain immune complexes and fatty acids. Cigarette smoking often contributes to "hyperactive" platelet formation. Diabetics and patients with hypercholesterolemia usually demonstrate increased platelet aggregation which can predispose them to clotting disorders which may lead to a vascular thrombus and vessel obstruction. ADD'L TESTS: For aggregation rule out high fat diet as cause. If platelet aggregation occurs concurrent with rouleau, acute phase protein elevation caused by inflammation or tissue necrosis or allergy can be suspected. A collagen-damaging disease is possible. If patient does not improve after 30 days of nutritional treatment and dietary management, test and rule out occult disease processes which may cause collagen damage or neoplastic changes. If aggregation exists in absence of rouleau and high fat diet is ruled out, check for excessive stress level producing biochemical imbalance in patient. Other tests -Cholesterol, triglycerides, HDL cholesterol, coagulation time. ALT VIEW: Of the concept of fragmenting megakaryocytes producing platelets, it is noted by Enderlein that megakaryocytes have lost their ability of cellular and nucleic division due to massive infestation by the primitive phases of the endobiont.

What mainstream biologists have been viewing as platelets being formed formed by megakaryocytes through the fragmentation of their cytoplasm, is in fact a process of the endobiotic infestation. For inquisitive biologists, research will show (and has shown) that the ferments from thrombocytes are entirely different from those of human cells, and plant enzymes can be identified on thrombocytes. Platelets are of a pleomorphic nature, and develop as part of the life cycle of the endobiont. They can and do develop beyond the megakaryocyte fragmentation. Only the smaller 2 - 4 micron size are apathogenic. Platelets can grow arm or leg type appendages/filaments, some of which can stretch like a spider web across the viewing field. When platelets begin to grow (which is a function of the terrain) their pathogenicity grows.

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