



## The CLL Bloodline

### January 2018

**Happy New Year! Over the course of a year of monthly meetings, *The CLL Bloodline* will teach the BASICS needed to understand CLL, starting this month with definitions and diagnosis. It will also provide news, help with the acronyms and new vocabulary words, and offer simple fun quizzes.**

#### **MONTHLY QUIZ:**

##### **Neutrophils are:**

1. A type of immature white blood cells.
2. Important in preventing bruising or bleeding.
3. A white blood cell important in fighting infections.
4. The blood cells that when they become malignant, cause CLL.
5. Blood cells that come from Switzerland or any other neutral country.

**Correct Answer is #3** Neutrophils or “neuts” are the most common white blood cell in the body and are critical in fighting infections, especially bacterial. They are also involved in inflammation and are the main cells found in pus. They are named neutrophils because their granules are neutral to the staining used for microscopy. Chronic lymphocytic leukemia (CLL) is a cancer of a different type of white blood cell called a lymphocyte. CLL is not a cancer of neutrophils, but their counts can be suppressed by CLL treatments, such as chemotherapy, immunotherapy or venetoclax.

#### **NEWS:**

**Dec. 9-12, 2017:** ASH (American Society of Hematology) Annual Meeting is the world’s biggest, most prestigious hematology conference. Important research is often “embargoed” only to be revealed at ASH. Over the next few months, the CLL Society website (CLLSociety.org) will present all the CLL news from ASH.

#### **THE BASICS: Definitions and Diagnosis**

CLL is a slow-growing or indolent lymphoma of the B-lymphocytes, a subtype of white blood cell and an important part of our immune system. CLL is both a leukemia and lymphoma and can be found in blood, marrow and lymph tissue, including the lymph nodes and the spleen. SLL (small lymphocytic lymphoma) is the exact same disease, but has not significantly spilled over into the blood. CLL/SLL is a cancer of the B cells that are involved in making antibodies. It is diagnosed by finding  $\geq 5000$  monoclonal (genetically identical) B-lymphocytes in the blood for a duration of at least three months. The clonal nature of the circulating B-lymphocytes should be confirmed by flow cytometry, a test that identifies specific surface markers on the cell. There are even less common cancers of the T cells, the other major type of lymphocytes. Healthy T cells are involved in cellular immunity. T cells can be genetically modified outside of the body (ex-vivo) to attack cancers, including CLL. These modified cells are called CAR-T (chimeric antigen receptor T cells).

#### **WORD/ACRONYM OF THE MONTH:**

**Clone:** A group of cells that are genetically identical and originate from a single parent cell. Leukemia cells develop from one original abnormal cell. CLL is an example of a clonal cancer, though just to confuse things, one may have several clones of CLL that fight for dominance and respond differently to treatment.