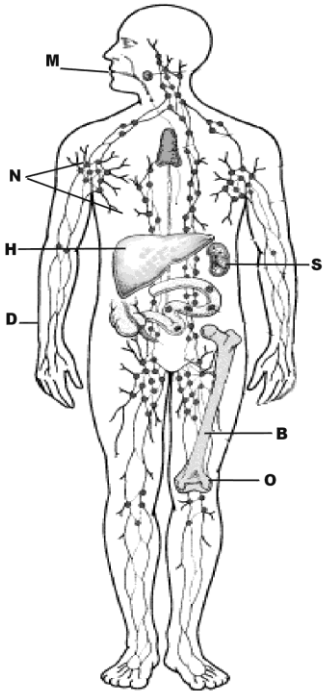
Depending on the cell or origin (there are many kinds of lymphocytes) and other factors, tumors can develop or spread almost anywhere in the body, including the skin, and mucosal tissue.



Lymphoma can present anywhere normal lymphocytes -- blood cells that provide immune defense -- are found.

N	lymph nodes
H	liver (hepatic)
L	lung (not shown)
B	bone marrow
S	spleen
P	pleura (lung lining - not shown)
O	bone
D	skin
M	mucosal linings - nose, stomach, eyes, etc.

Lymphoma is not one cancer, but a name for a group of related cancers that arise when a Lymphocyte (an immune cell) becomes malignant.

When a lymphocyte becomes malignant it's biologic behavior is arrested at its stage of development.

Lymphomas cells may grow to fast or fail to die, and accumulate to form tumors in the body, most commonly in the lymphatic system -- the network of lymph nodes and channels that transports a watery clear fluid called lymph.

Lymphomation.org

About Lymphoma | Advocacy & Art | CAM | Clinical trials
Doctors | Guidelines at diagnosis | How to Help | Research
Side Effects | Support | Symptoms | Tests | Treatments | WebCasts

Lymphomas are blood cancers that originate in a type of white blood cell called **lymphocytes.**

These are immune cells that normally protect you from illness – by expanding in number when needed to fight infections. These "soldier cells then self-destruct when the invading infection has been subdued.

In any cell the genetic code can get damaged in ways that lead to the **loss of normal growth controls**.

…Instead of resting, the cells continue dividing - an **aggressive lymphoma.**.

… Instead of dying when the cells have completed their normal activities, the cells stay alive longer (persist) than they should - an **indolent lymphoma.**

Eventually, copies of the defective cells accumulate to form **tumors**, commonly in the **lymph nodes**.

The tumors may develop in other areas of the **lymphatic system**, such as the spleen and bone marrow – this is called extra nodal disease.

Because normal lymphocytes die off readily following normal disease-fighting activities, they tend to be treatment-sensitive compared to cancers that arise from other organs of the body.

WHAT'S LYMPHOMA?

Symptoms & Risk Factors

While the following symptoms of lymphoma are associated with many benign conditions, anyone experiencing them, especially when persistent or recurring, should be seen by their doctor.

Common Symptoms

- Persistent fevers or chills
- Drenching night sweats
- Painless swelling of lymph nodes
- Persistent skin rashes and itching
- Unexplained fatigue
- Unexplained weight loss

Factors Thought to Increase Risk

- Chronic infection
- Depressed immunity
- Chemical exposure – pesticides, cancer therapies, herbicides . . .
- Viral exposures

The Burden of Lymphoma

Only 45% of patients with **aggressive** non-Hodgkin's lymphomas will be **cured** with standard treatments.

Almost all **indolent lymphomas** remain **incurable**, unless diagnosed early and treated with radiotherapy when the disease is localized.

The less-common **Hodgkin's lymphoma** is curable about 80% of the time.

Each day approximately 170 Americans are diagnosed with lymphoma, and 75 die of the disease.

This year it's estimated that **63,000 individuals** will be diagnosed with lymphoma, in the USA, and that **24,000 will die**.

Lymphoma is the most commonly occurring blood cancer; its the **third most common childhood cancer**.

The **incidence rate** of individuals diagnosed with non-Hodgkin's Lymphoma (NHL) each year has doubled since the 1970s, and has **increased 4% annually**.

NHL is the second **fastest rising cancer** in incidence and death rates in the United States. [Adapted from SEER 2001]

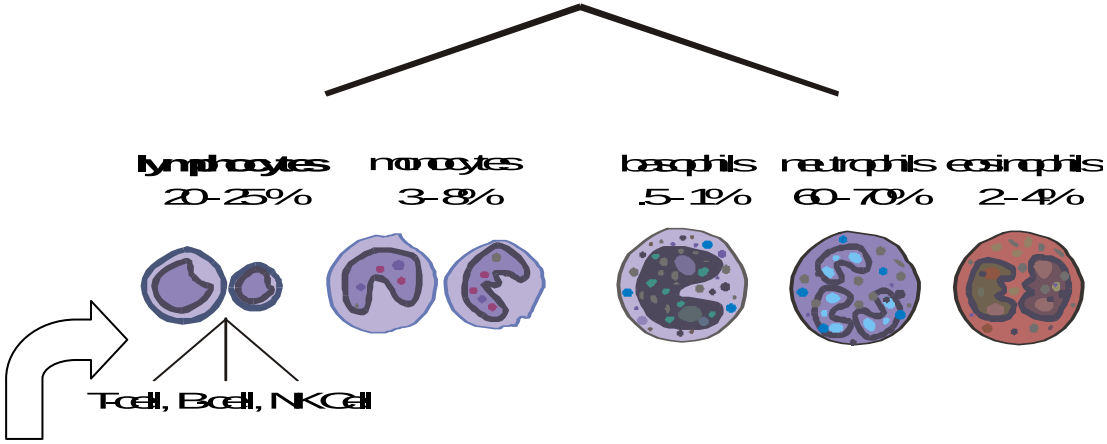
For details on Lymphoma statistics visit:

www.Lymphomation.org/statistics.htm

For details on What is Lymphoma visit:

http://www.lymphomation.org/getting-started.htm

Lymphocytes – A Member of the White Blood Cell Family



Lymphocytes begin life in the bone marrow and can have many **stages of maturation**. The stage of maturation when the lymphocyte becomes malignant (a cancer) determines the type of lymphoma. For this reason there are many subtypes of lymphoma.

White Blood Cells defend us against infection. Note that lymphomas are cancers that affect **lymphocytes**, and that the majority of lymphomas originate in B-cells.

How a Cancer Develops

Cancer begins with **damage to DNA** in the cell nucleus. These "**hits**" can result from random errors, or by exposures to chemicals or radiation:

But the cell has **defenses**: It can initiate **cell death** (suicide) when a defect is detected (so-called apoptosis),

or it can **repair** the error and become a normal cell.

If these defenses fail, an **atypical cell** is formed.

But multiple "hits" on the DNA are required to cause a cancer.

A third line of defense is your immune system. For example, Natural Killer cells can detect abnormal cells and kill them.