Very Low C

Kid Clot ©

Normal
Blood Clotting

KIDCLOT©
Kids
Informed
Decrease

Complications
Learning
On
Thrombosis

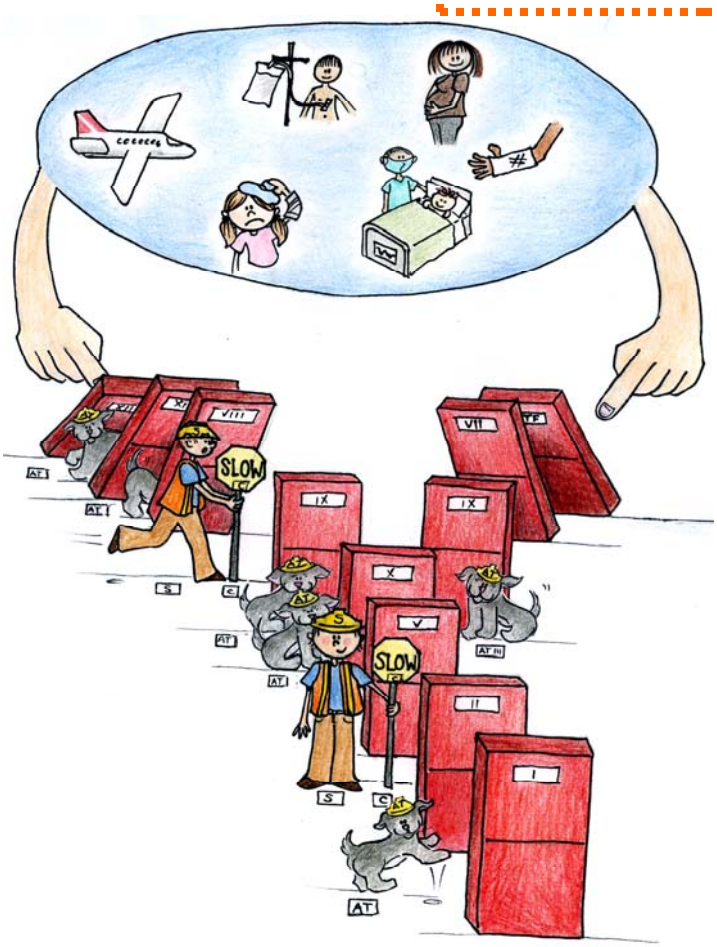
What is a Blood Clot?

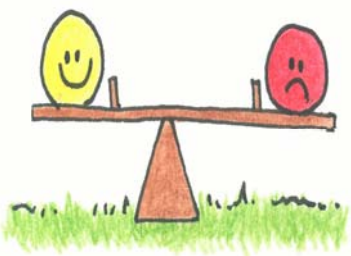
A **blood clot** is when your blood changes from a **liquid** to a **solid.**
This is usually a good thing but sometimes is a bad thing.
A blood clot is a good thing because it stops the bleeding when you cut or hurt yourself.

Blood clots can develop in your veins (v-ay-n-s) or arteries (art-er-ees) which are the pipes that carry your blood back and forth to your heart.
Sometimes **blood clots** form in places they are not supposed to; this is called a **bad blood clot** or **"throm-bo-sis".**

How Does Blood Clot?

There are **proteins** (pro-teens) in your blood that are so small you cannot see them without a special magnifying glass. These **proteins** work together to make sure your body makes a clot when you need it. Some of these **proteins** are called **factors.**
These **factors** act like dominoes. Some of the things that cause your body to make a blood clot are seen in the bubble in the picture.
When these things happen to you, your blood clotting system gets **'turned on'** like tapping the dominoes.
When each **protein** gets **turned on** it works like a tapped domino and falls on to the next one or two, causing them to fall. Like dominoes, each **protein will turn on the next one** and on and on. When the last factor falls it makes a scab to stop the bleeding within minutes.





The **proteins** work together to balance blood clotting so that your blood does not make a clot when it does not need one.

Other important **proteins** have names like **C, S** or **AT**. The workmen are acting like **S** and their slow signs like **C.** The dogs are acting like **AT** and get in the way of the dominoes falling. These **proteins C, S** and **AT** work to **slow** down the falling domino-like blood clotting system. The workmen **(S),** slow signs **(C)** and dogs **(AT)** are very important to make sure your blood does not **clot** when your body does not need it.

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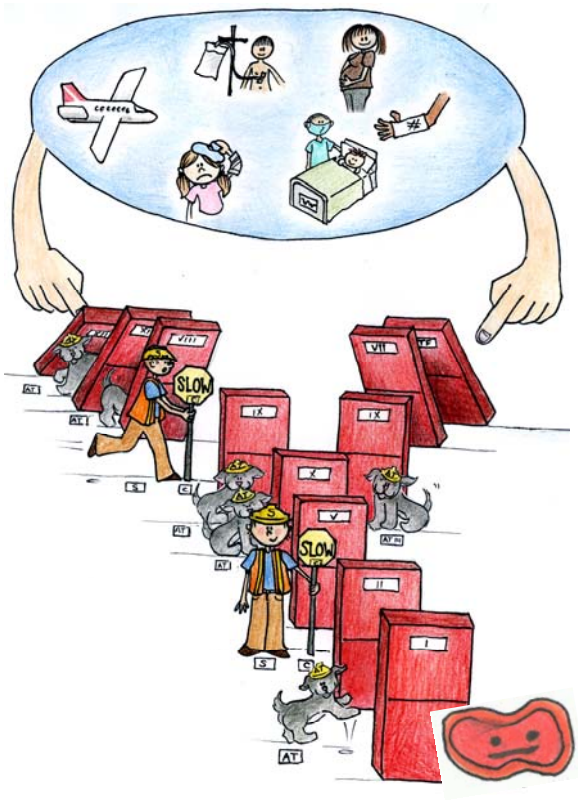
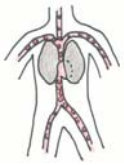
Very Low C

Homozygous C Deficiency?

The **workmen** in the picture act as protein **S** and the **slow sign** like protein **C. S** tells **C** when to slow **blood clotting** down**.** When **S** and **C** work together they make sure you don't get **blood clots** in the wrong place or when you don't need one.



The **bad clots** usually form in the pipes that carry the blood back to the heart. These blue pipes are called **veins (v-ay-ns)**.



Arteries (ar-ter-ees) are the red pipes. Arteries carry the blood from your heart to your body.

What Would a Bad Clot Feel Like?

Sometimes your body makes a blood clot when it does not need one. This is a **bad blood clot** and is called **deep vein thrombosis.**

If your body makes a bad blood clot you will have pain and puffiness in the area where the blood clot is even when you haven't hurt that area, **OR you may find it hard to breathe even if you do not have asthma or a cold.**

Some people **don't have enough C.** Then all the workmen **don't have slow signs.** That means they cannot slow blood clotting down enough. Sometimes bad clots may form when they shouldn't.

What Does Low C Mean For You?

Having **Very Low C** does **not** mean you did something wrong. You will always have **Very Low C.** It does not mean you are sick or that you will get sick one day.

Doctors usually find that you have **Very Low C** when you are a baby. When you were a baby you may have had large blue black bruises on your skin.

These bruises are treated by giving you **C** through a needle into your vein.

Now you take medicine that is a **blood thinner** so your body will not make a blood clot when you don't need one.

Girls with **Very low C** are special. When you have **Very Low C** and are pregnant you have a bigger chance of getting a **bad blood clot**. Some girls take pills to stop them from having a baby. These pills are made of estrogen which will give you an even bigger chance of getting a **bad blood clot**. You should talk to your doctor about taking these pills.

Homozygous
C Deficiency

Very
Low C

KIDCLOT (C)

How Did You Get It?

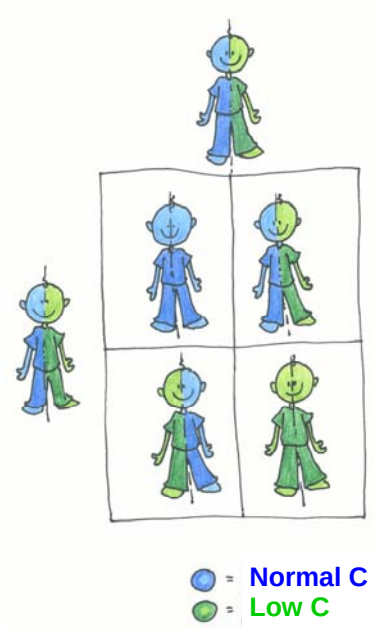
Building a person is not magic.

Building a person requires a set of instructions. Tiny cells in your body store those **instructions** in a long, twisted particle called **DNA.**

The **DNA** controls everything about you, from the colour of your hair, to how tall you are, to the size of your feet. Your body carries billions of cells and each has 2 copies of **DNA** instructions.

When you are born some **DNA** instructions come from your mom and some from your dad. You won't know which DNA instructions for **C** you will get until you are born.

Let's say you are one of the children in the box, pick one. Both parents are **blue/green.**



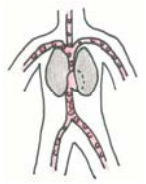
The blue/green parent has DNA instructions for low C. If you have green DNA instructions for C you may not have as much as you need.

Did you pick the **green** child? **The green child has very low C.** You could just as easily have picked the **blue-green** or the **blue** child BUT you cannot pick your **DNA** instructions.

'An-ti' means against, 'co-ag' means clot, "anticoagulant" is a blood thinner

Treating Blood Clots?

The **bad clots** usually form in the pipes that carry the blood back to the heart. These blue pipes are called **veins (v-ay-ns)**. **Arteries** (ar-ter-ees) are the red pipes. Arteries carry the blood from your heart to your body.



When your body makes a blood clot when it does not need one it is called **deep vein thrombosis.**

You will know you have a bad blood clot because you will have pain and puffiness in your arm or leg without a good reason.

Kid Clot ©

Treating Blood Clots

What To Do About Your Blood Clot

- When your body makes a blood clot when it doesn't need one your doctor will give you **medicine to help your body take care of the blood clot.**
- **A blood clot is like very thick blood.**
- **The medicine is called a blood thinner.** A '**blood thinner**' does not really make your blood thin it just helps to **slow down** the time it takes for your blood to clot. The blood thinner helps **S, C** and **AT** slow down the dominoes when they fall. This means it will take longer for your blood to make a clot.
- If you cut yourself when you are taking a blood thinner, it takes about 2 to 3 times longer for you to stop bleeding.

Important Things To Know If You are Taking a Blood Thinner

1. Blood thinners will cause you to **bruise** and may cause **bleeding**.
2. You will need to have **blood taken** to make sure you are taking the right amount of medication so that it works properly. **Be sure to do your blood work on the day your doctor or nurse tells you to.** This will help to keep you safe from making new clots and from bleeding.
3. You must **wear a helmet** when you are riding a bike, roller-blading, skateboarding or skiing.

4. If you fall and hit your head, you must tell your mom or dad.
5. If you cut yourself hold the cut tight for 10 minutes.
6. If you are having any surgery or procedure that may cause bleeding call your doctor or nurse who helps you with your blood thinner .

How Does a Blood Thinner Work?

A blood thinner does not work to make the clot go away. The blood thinner stops the blood clot from getting bigger.

Your body is made of billions of tiny parts called molecules. They are like building blocks put together to make enzymes.

Your body has its own clot-busting enzymes. Your clot busting enzymes work to break up the clot.