

"General Teasel! General Beasle! Private Lymph reports an antigen!" said the corporal.

"Oh, no! Let's get cracking!" said both generals in unison.

This was all taking place in the bloodstream. Lymph nodes, obviously, had not been set up yet.

"Okay. I'll notify my troops," said General Beasle. General Teasel nodded. "Me, too," he said. "Can he identify it?" he added.

"Yes. He thinks it's a streptococcus bacteria," replied the corporal.

"Darn!" said General Beasle. "I hoped it was something else, so we'd have antibodies against it already, oh well!"

General Teasel wasn't as worried. "We don't need special lymphocytes. We'll start the attack if you'd like."

"No, I'd like to alert the macrophages first. They can do more than us," replied General Beasle.

General Teasel nodded. "Okay. Let's set up lymph nodes."

The two generals went their separate ways.

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"Okay, men!" General Beasle called out. "Who has the streptococcus bacteria antibody producer?"

"I do," called back one of the lymphocytes in the spleen.

"Good", said General Beasle. "Alert your relatives that we've been invaded by a streptococcus bacteria. Start producing antibodies and more of your own lymphocyte."

"Yes, sir."

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"Fellow comrades, we have been invaded by a streptococcus bacteria. Proceed as follows:

1. Travel through the bloodstream and each of you enter a lymph node by the afferent lymphatic. There you will find me, General Beasle, and his troops working.
2. Reproduce very rapidly in the lymph nodes. When I tell you to do so, enter the battlefield. There will be macrophages there. At the sight of you, some may leave. Attack the bacteria. Send your captured antigens to the macrophages. B cells will be working with you, as well as antibodies.
3. When the battle is over, come to my private resort in the spleen, and we will party with some extra protein. Hop to!"

So ended General Teasel's speech.

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At the lymph node, things were very busy. Lymph was being brought into the node by way of the afferent lymphatic, and more lymphocytes and also antibodies.

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Meanwhile, the battle was raging. At this stage, the bacteria was winning and the victim had a very sore throat. Macrophages were the only ones at the scene right now, but could only do so much. They needed the help of lymphocytes and antibodies.

Macrophages were busy trying to engulf the streptococcus and digest it.

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General Beasle and Teasel held a conference. Here's how it went:

"So Beasle, how's the antibody production going?"

"Superb, General Teasel. I'm just about ready to send them out. How about you and your lymphocytes? Have any recently graduated from Thymus U? I got a full batch just at the beginning of the invasion from Bursa College."

"Oh, I figure we can start sending out our troops in about an hour. Okay?"

"Sure thing Teasel. And by the way - I've heard that those macrophages really need our help."

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In exactly one hour, the final battle began.

"B Lymphocytes! Send out 10 antibodies each! Now!

"T Lymphocytes! 10,000 of you go to the battlefield! The rest of you make more lymphocytes!"

So the battle went on. Let's take a closer look.

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Here's the view from a B cell scout:

Hmm - Those antibodies are really going at it. There's a lattice formation in the Zone of Equivalence! Oh, I can see the lysed bacteria, the work of complement. Look at all the different stages of complement set off the different glands! I'd better go back and tell General Beasle how good things are going.

Here's the opinion of a Tease scout:

My friends are really working! Half the bacterium must have been killed by now. Look at them! Cleverly covering, or better yet destroying vital parts on the microbe! Wow! This will be good news for old Teasel.

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The patient is now feeling very drowsy and sometimes has a fever. But in another 1 to 2 days, he will probably be completely healed.