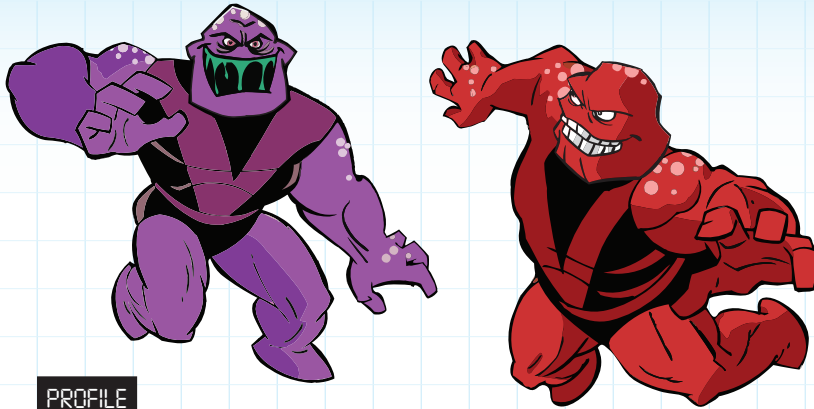


>>> IMMUNE PLATOON DISEASE DATABASE <<<

CASE FILE: MENINGITIS MUTANTS • REAL NAME: VIRAL MENINGITIS AND BACTERIAL MENINGITIS

KNOWN ALIASES: VIRAL MENINGITIS AKA ASEPTIC MENINGITIS

BACTERIAL MENINGITIS AKA HIB, PNEUMOCOCCUS, OR MENINGOCOCCUS



PROFILE

Both viral meningitis and bacterial meningitis actually have lower-level operators doing all their dirty work.

- Viral meningitis infections are usually caused by common viruses. Lots of viruses can cause viral meningitis, including the bad guys that also cause mumps, herpes, stomach problems and other bad news.
- Bacterial meningitis is caused by three bacteria with complex code names:
 1. Haemophilus influenzae type b, AKA "Hib" (rhymes with "rib")
 2. Pneumococcus (noo-muh-KAHK-us)
 3. Meningococcus (meh-NIN-juh-KAHK-us)

Both types of Meningitis are a creepy little bunch of spinal cord and brain attackers. "Meningitis" means "inflammation of the meninges" (pronounced meh-NIN-jeez). ("Meninges" are like a three-layer jacket inside our heads protecting our brain and spinal cord).

All forms of meningitis try to hitch a ride in the bloodstream in order to reach and infect the spinal cord and brain. The viruses and bacteria that cause meningitis spread when someone has close contact with an infected person—like real close conversation, or kissing. You can also pick up these viruses or bacteria from touching infected surfaces, like a doorknob, and then touching your mouth or nose.

It's the bacterial meningitis branch that packs the most powerful punch. Its bacterial swarm can cause brain damage, hearing loss, or learning disabilities. Vaccines and antibiotics make up the arsenal against bacterial meningitis.

Viral meningitis normally does less damage than bacterial meningitis. Viral meningitis can't be treated with medicine. The immune system can usually knock out viral meningitis without any help.

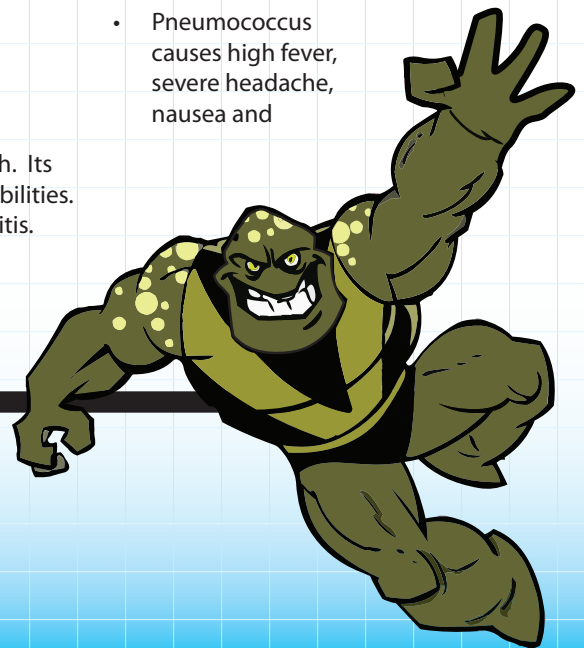
POWERS & ABILITIES

The germs that cause both viral and bacterial meningitis spread fast among people who are close together a lot—like kids in a classroom, soldiers in a barracks, and students living in a college dorm.

Viral meningitis is more common, but far less powerful than bacterial meningitis. People with viral meningitis usually have symptoms that are like the flu, and they make a complete recovery in little over a week.

Meningitis caused by bacteria is no joke. These guys aren't just bad, they're good at being bad. How bad?...

- Hib meningitis can cause pneumonia, and throat swelling, and can literally infect the blood, bones, joints, and the covering of the heart. It can cause blindness, deafness, mental retardation, learning disabilities, and death. About 5 percent of kids who get Hib meningitis die even if they get treatment.
- Pneumococcus causes high fever, severe headache, nausea and



vomiting, stiff neck, sensitivity to light, and mental confusion.

- Meningococcus symptoms can start suddenly. Within a few short hours, an infected person can be slammed with high fever, headache, stiff neck, nausea and vomiting, confusion, and sleepiness. Sometimes, the symptoms creep in more slowly, with signs showing up over a couple days. Ten to 15 percent of cases are fatal. Ten to 15 percent of those who live have permanent hearing loss, mental retardation, loss of limbs, or other serious problems.

PREFERRED METHOD OF ATTACK

Meningitis is an “air and surface” attacker. It spreads when wetness from the mouth or throat of an infected person gets onto surfaces—when the person coughs, sneezes, or touches something after having their hand in their mouth. When an uninfected person touches that surface, and then touches their own mouth, nose, or eyes (ta da!) meningitis has found its way in. Also, close contact with infected persons, like kissing, can spread meningitis.

KNOWN WEAKNESSES

The weapon against viral meningitis is your own immune system. Normally, doctors just tell you what to do to let your immune system do its job: rest, drink plenty of fluids, and take medicine to relieve your fever and headache.

But, for bacterial meningitis, docs break out the heavy artillery—vaccines to stop it, and antibiotics to kill the bacteria when they do pull off an infection.

Here’s what we have on our side:

- Hib vaccine. This vaccine has almost completely demolished Hib. With the vaccine’s incredible shield, Hib infection in babies and kids in the U.S. has dropped by 99 percent. Take that, Haemophilus!
- Pneumococcal Polysaccharide Vaccine (PPV). This vaccine is an incredible teacher—using inactivated bacteria to train the body’s own immune system to fight live pneumococcal bacteria.
- Meningococcal vaccine. This tricky player helps the body develop antibodies to the sugar that coats the meningococcal bacterium. The vaccine teaches the immune system how to break through the bacterium’s armor. Once the immune system has cracked the shell, the bacterium is powerless.

PREFERRED VICTIMS

Like most cowards, these guys target the weak. Hib goes for the little guys—3 month olds to 3 year olds. Pneumococcus hits infants, toddlers, and elderly people hardest. Meningococcus targets children younger than 1 year old. But, meningococcus adds a twist, also striking healthy people who live close together, like college students in dormitories.

PRECAUTIONS FOR THE PUBLIC

First line of defense, vaccines. Doctors recommend that all babies get the shield of Hib and pneumococcal vaccines. The CDC recommends the

meningococcal vaccine for kids 11-12 years old, kids entering high school who have never been vaccinated, and college freshmen living in dormitories. The vaccines will train your body to protect you! Then, it’s just “back to basics.” Wash your hands (especially before eating and after the bathroom). And, avoid getting too close to people who are sick. Last, even rookies in the fight against meningitis will tell you, get a doctor’s help right away if meningitis symptoms show up. Infections can be deadly.

AREA OF OPERATIONS

In the U.S., the worst forms of meningitis (bacterial meningitis) are fairly rare—clusters of more than a few cases are uncommon.

CRIMINAL RECORD

Like most diseases, we don’t have a handle on how or when meningitis viruses and bacteria got their start. We do know that vaccines have succeeded in slowing down the bacterial trio. ■

