

A Timeline of Events Surrounding 10 cases of an Outbreak of Mystery Twitching at William Byrd High School in Vinton, Va

Preface

Below a table documenting a timeline of events surrounding the Mysterious Twitching outbreak in community of Vinton, Roanoke, and Bedford, VA. This outbreak involved (10) cases including (1) Adult teacher. The latter half of this timeline is very similar to the events that have unfolded at LeRoy High School.

Links to source articles are hot and can be accessed by right clicking on them and selecting ‘Open Hyperlink’ .

It should be obvious what a possible cause of some of these cases might be. The Strep and Staph were all over the place in these schools.

Press Date	Incident Date	Headline or Summary Comment	Snips from Article & Other Comments	Link to Web Article or Source
2007-1016	2011-1004	Teen dies of MRSA infection The Bedford County student had a blood clot near his heart that made surgery impossible.	Bedford County teen, Veronica Bonds said her son Ashton Bonds, 17, a senior at Staunton River High School in Bedford County, died Monday at Carilion Roanoke Memorial Hospital. preceding "I want people to know how sick it [MRSA] made my son," she said. MRSA, or Methicillin-resistant Staphylococcus aureus, is colonized in approximately 2.3 million Americans, or 0.8 percent of the nation's population, according to the Centers for Disease Control and Prevention. Pronounced "mersa," the bacterium is not harmful until it enters the skin or organs and causes an infection. At least three cases of MRSA infection have been reported in Bedford County schools in recent weeks. MRSA infections most commonly take the form of drainage-filled pimples or boils, according to the Virginia Department of Health. Ashton went to Bedford Memorial Hospital on Oct. 4 after complaining of pain in his side, his mother said. He was sent home after doctors ruled out appendicitis. Three days later, when Ashton was not feeling better, he was admitted to Bedford Memorial Hospital and later transported to Carilion Roanoke Memorial Hospital, Bonds said. Last week doctors diagnosed Ashton with a MRSA infection that had spread to his kidneys, liver, lungs and the muscles around his heart.	http://www.roanoke.com/health/wb/136058

			"His lungs didn't recover," Bonds said. On Tuesday, a government report said staph infections have been spreading through hospitals, schools and other public buildings. But Virginia health authorities don't require that individual cases of MRSA be reported, said Robert Parker, a regional spokesman for the Virginia Department of Health. Parker said he could not confirm that Lovern had reported his son's death to the health department. Because of the law, however, health authorities who get a report of a case of MRSA are not required to record it.	
2007-1016		A Lynch Station Boy Is Dead After Being Hospitalized For More Than A Week With A MRSA Infection.	Veronica Bonds said her son Ashton Bonds, 17, a senior at Staunton River High School in Bedford County, died Monday at Carilion Roanoke Memorial Hospital.	http://www.survivalistboards.com/showthread.php?t=3260 see also http://www.roanoke.com/news/roanoke/wb/136058
2007-1016		Staph Infection Kills Virginia Student, Prompts Closing of 21 Schools	A high school student has died as the result of a treatment-resistant staph infection, prompting Virginia officials to shut down 21 schools to keep the illness from spreading. Ashton Bonds, 17, a senior at Staunton River High School in Bedford, Va., died Monday after being hospitalized for a week with Methicillin-resistant Staphylococcus aureus, his mother said.	http://www.foxnews.com/story/0,2933,302299,00.html#ixzz1kL9ZrLCV
2007-1016		Staph Infection Kills Virginia Student, Prompts Closing of 21 Schools	This is a repost of the outbreak story from Fox news http://www.foxnews.com/story/0,2933,302299,00.html#ixzz1kL9ZrLCV. Note: In the comments section there are references to other communities in the area that had documented MRSA cases. Also a link to a story about a school in NH closing temporarily due to cases of MRSA.	http://www.freerepublic.com/focus/f-news/1912064/posts?q=1&page=51
2007-1017		Staph Death Jars County As Loved Ones Mourn Their Loss, Bedford-Area Schools Close For Cleanings.	MONETA -- Ashleigh Shuffler, 16, and her classmates at Staunton River High School sent a mass of text messages Monday night, organizing a protest challenging the way school officials responded to a recent staph outbreak.	http://www.carrollco.com/our_company/news/Staph_death_jars_county_-_Roanoke_1007.pdf

			"We sent out a text to meet at the flagpole at 8 a.m.," she said. Ashleigh and more than 100 of her peers turned out to mourn the death of a fellow student, gathering at the flagpole in front of the school on Virginia 24 as the flags flew at half-staff. Their action had results: All 22 Bedford County schools are closed today for thorough cleanings.	
2007-1017	CNN NEWSROOM Dangerous Infection Shuts Down A Virginia School System Aired October 17, 2007 - 09:00 ET	A Virginia school system shut down today by a killer super bug. What is staph and should parents everywhere be worried? A Virginia school system shut down today. The reason, a dangerous drug-resistant infection that led to one student's death. The mother of 17-year-old Ashton Bond said he died Monday after diagnosed with MRSA. That is an antibiotic-resistant staph infection. The Bedford County superintendent says all 21 schools in the district are closed today for a thorough cleaning. It is an attempt to keep the infection from spreading. The decision followed a protest by concerned students. (BEGIN VIDEO CLIP) UNIDENTIFIED STUDENT: We're just trying to find answers. We want to know what's going to be done about cleaning up the school. DANIEL ORANGE, STUDENT: Feel safe and all going back in there. Not only do I remember Ashton, but get it through to the administration and all that we don't want another one of our friends or another one of our classmates gone because of them not doing anything and we want something done about this. (END VIDEO CLIP) HARRIS: Health officials say staph infections have spread through schools across the nation over the past few weeks. The Virginia students organized their protest using text messages and social networking sites. COLLINS: MRSA, the drug-resistant staph infection. A much bigger problem than scientists previously thought. That's according to the Centers for Disease Control and Prevention. For more on this, we want to bring you Chief Medical Correspondent Dr.	http://transcripts.cnn.com/TRANSCRIPTS/0710/17/cnr.03.html	

Sanjay Gupta.

Boy, when we first heard this story, people get pretty darn nervous, obviously.

DR. SANJAY GUPTA, CHIEF MEDICAL CORRESPONDENT: Yes, I mean we're talking about some infection that's been out there for sometime. This methicillin-resistant bacteria, it's evolved. **This used to be a bacteria that you could kill with simple penicillin, but now it actually requires more aggressive antibiotics and sometimes even those don't work.**

There are about three high school students who actually had it. One died, as you just mentioned, Heidi. It is finding its way out of hospitals. This used to be something that's solely found in hospitals because that's where sick people were and that's where they used a lot of antibiotics. But now it's become something that you're finding more and more in the community and even in schools, as we're hearing about this particular case.

COLLINS: Yes -- locker rooms or we were talking about wrestling match earlier in our meeting today.

How exactly is this spread?

GUPTA: Yes. **It can be through close contacts -- skin-to-skin contact. It can be through equipment, such as sports equipment that may not be completely hygienic, actually passing on the bacteria that way. Typically more common in urban areas, typically more common in close quarters such as schools.**

There's lots of different pieces of advice, Heidi, in terms of how to avoid it, especially in hospitals or in the communities. Washing your hands, not sharing personal items, keeping wounds clean and dry, and covered. Those sound like obvious things, right?

COLLINS: Yes. GUPTA: But they seem to make a big difference. **And you mentioned the 94,000 number, as far as the number of cases of this, that's much higher, I think, than a lot of people thought.**

COLLINS: Absolutely.

GUPTA: I should add to that that 19,000 of those people have subsequently died. So the mortality rates, if you will, are quite high with this.

COLLINS: Well, when you say those numbers, it's absolutely shocking. So...

GUPTA: More people died of this than HIV/AIDS in this country, in that year...

COLLINS: Why doesn't anybody really talk about it?

GUPTA: Well, I think people are starting to talk about it more. It used to be something that's primarily relegated to hospitals, so the hospitals were the problem. Now you're seeing it more in communities. **But you're also getting the sense that these bacteria evolve -- right? You try some antibiotics, they develop resistance. You try other antibiotics, they become resistant to that.**

There are different types of antibiotics that still work against MRSA, **but you got to catch it early and you got to make sure you're dealing with the right diagnosis. With this particular football player, it has spread to his kidneys, his lung and liver.** It was simply just too late for any kind of medication to work.

COLLINS: How do you know that you may have something like this? I mean I'm just trying to imagine his parents or even himself, you know, not feeling right, and here's what we think it might be.

GUPTA: Right. It can be hard to know, because it can start off as something that looks relatively innocuous -- a little sore on your skin, some people describe it as looking like a little spider bite.

If you have something like that that's simply not going away, even with antibiotic treatment -- you can get a glimpse of what it might look like in the early stages -- it's not going away, you need to get it checked out. And they can actually do a little swab to see -- is this in fact MRSA, also known as MRSA? Some people call it the flesh-eating bacteria. But you got to get that checked out early. That's the key.

COLLINS: Wow! I'm just looking at those pictures. Yuck!

All right.

			GUPTA: Yes. COLLINS: Thanks so much, Dr. Sanjay Gupta. GUPTA: All right. Thank you. COLLINS: We're going to stay on top of this for you. And also, I want to invite everyone. Coming up a little bit later in the NEWSROOM, we're going to be talking with someone from the Virginia school system, about the decision to cancel classes at 21 schools today because of this story, and what officials are doing to keep students safe. That interview still ahead this morning.	
2007-1018	2007-0225	Roanoke Man Says Son Died Of Staph Infection Jon Lovern's father said he tried to raise awareness of the risk of MRSA after his son died	Eight months before several well-publicized cases of staph infections came to light in the Roanoke region, one family was quietly mourning the death of a son. Jon Lovern, 15, an eighth-grader at Roanoke's James Madison Middle School, died of Methicillin-resistant Staphylococcus aureus Feb. 25 at the University of Virginia Medical Center. The newest reported cases came from the New River Valley, where Giles County officials confirmed Wednesday that two Narrows High School students have been diagnosed with MRSA. School officials confirmed six cases of MRSA in Bedford County in the past month, spokesman Ryan Edwards said. Ashton Bonds' diagnosis would be the seventh, though Edwards said no confirmation has been received from health officials. Two cases each were reported at Jefferson Forest High and Staunton River High. Bedford Middle and Huddleston Elementary each reported single cases. The school system hired Servpro, a cleaning company, to clean Staunton River High, Staunton River Middle and Huddleston Elementary schools starting Tuesday evening. Earl Clarke, owner of a Lynchburg-based Servpro franchise, said fogging machines were used to disperse a disinfectant that kills MRSA. Approximately 30 Servpro employees spent more than 12 hours cleaning and wiping surfaces at Staunton River High Wednesday. The janitorial	

			staff at each of the other 19 schools in the county spent the day cleaning, too. "You can clean all you want, but you are not going to get rid of the bacteria" completely, Clarke said. There is potential for recontamination because of MRSA's presence among healthy Americans. The Centers for Disease Control and Prevention estimate that 0.8 percent of the nation's population -- approximately 2.3 million people -- is colonized with the bacteria. "It [MRSA] is everywhere. It is not just in our schools." It is impossible for schools to close down every time a student contracts a MRSA infection, he added. Servpro will return to Staunton River High after school today and Friday as part of an ongoing effort. Clarke said he is working with school officials to establish a contract for regular cleaning on a monthly or bimonthly basis. All the attention this week on MRSA is exactly what Edward Lovern wanted after the death of his son Jon in Roanoke. Lovern has been trying to warn people about the dangers of MRSA. He said he told the Roanoke school system and the Virginia Department of Health about the cause of his son's death.	
2007-1019		Resistant Staph Germ Poses School Health Concerns	A school district in southwestern Virginia shut down for a day of deep cleaning last week in the wake of a student death attributed to a virulent strain of bacterium and a national report indicating that such infections may be more common than previously thought. Once seen as just a problem in health-care settings, the infections are now popping up among the otherwise young and healthy, including cases of two high school students in Nashua, N.H., earlier this fall, and 14 cases reported since August in the Montgomery County, Md., school district. Two other children have died of MRSA infections in October, according to press reports.	http://www.edweek.org/ew/articles/2007/10/24/09germs.h27.html
2007-1106		School Officials: No Known Cause For Strange Symptoms	William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher "Roanoke County school officials have found no environmental cause for	http://www.roanoke.com/news/roanoke/wb/138608

		Parents voiced their concerns at a meeting Monday. William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	the strange twitching symptoms that have affected some students at William Byrd High School, but more testing is planned to begin today.” This was after the school had been closed for cleaning weeks earlier due to concerns for staph and MRSA.	
2007-1106		Mysterious Twitching Syndrome Students at a high school in Virginia report having involuntary tremors William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	William Byrd High School in Vinton, Va ABC World News video – 2 students describe to the interviewer what the symptoms of the students that are involvd is like.	http://abcnews.go.com/GMA/video?id=3826751
2007-1106		Mysterious Illness Causes Twitching st Va. School –ABC News Good Morning America William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	Virginia school officials plan more testing today to determine the source of a mysterious illness that has worked its way through an area high school and caused a strange symptom among students and staff -- twitching. So far, the illness has sickened several students and a teacher at William Byrd High School in Vinton, Va., and officials can't specify specific symptoms to watch out for. But one mother said her child is experiencing bouts of sudden twitching and uncontrollable arm spasms, along with headaches and dizziness. The school is closed today for elections, but school officials said they do not plan future closures or relocated classes. Health experts said that based on the environmental test results, there's no need to close, according to The Associated Press.	http://abcnews.go.com/GMA/story?id=3825976

			ABC News Students at William Byrd High School said they are worried about the mysterious illness that has their school. That's no consolation to students and parents, who paced an auditorium at a public meeting Monday night with officials from the school system, the Virginia Department of Health and the companies that conducted environmental tests, according to the AP. Health experts tested for mold, and the school came up clean. Disturbed by the twitching that accompanies the illness, many students and parents want the school to remain closed. "They wave. It's convulsing. They can't stop it," said senior Layne Gulli of the symptoms. "You don't know how to avoid it. You don't know if you're next, or if your friend is next, or if it's an epidemic."	
2007-1107		Expect the best at WBHS William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	"For example, a football mom lost faith in the school after a meeting a few weeks ago about staph infections. Parents were told their sons would receive a special body wash. They never did. And, she claimed, the players had to scrub down the locker rooms with bleach themselves."	http://www.roanoke.com/editorials/traud/wb/138719
2007-1113		Still No Cause Found for Mysterious Twitching Illness Plaguing Va. School William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	Tests at William Byrd High School in Roanoke County have ruled out several possible causes for strange, seizurelike symptoms in roughly 10 people at the school. The school system hired environmental consultant ECS Mid-Atlantic to perform the tests. Company official Derek Cooper said tests on surfaces at the school found no evidence of anything abnormal inside the building. – But this was misleading because William Byrd High School had just cleaned their school in the months prior to the inspection due to MRSA contamination and had actually used the football team to do so.	http://www.foxnews.com/story/0,2933,311158,00.html See also http://www.ct.gov/dph/lib/dph/PHNursingTalk_susan_petit_12-04-08.pdf Detailing the charges of \$216,005.00 that were incurred by just

				weeks early by Bedford County as a result of MRSA deaths that had just occurred there at Stauton High just weeks earlier.
2007-1118		Expert: Mystery Illness Is Stress -The Twitching Reported At William Byrd High School Is A Classic Psychogenic Symptom, A Researcher Says. William Byrd High School in Vinton, Va (10) cases of Mysterious Twitching is reported. One of them was a teacher	“It's been a busy few months for the Roanoke County Public Schools. School officials had to deal with loose asbestos at Northside High School, confirmed staph infections around the region and repeated warnings about Methicillin-resistant Staphylococcus aureus, also known as MRSA, after a Bedford County mother said her son died of the disease last month.”	http://www.roanoke.com/news/roanoke/wb/140221
2008-0502		MRSA Superbug Invades Public Schools	NaturalNews) Schools in at least eight states have reported confirmed cases of students being infected with the "superbug" known as methicillin-resistant staphylococcus aureus (MRSA) following the death of a 17-year old Virginia student late last year, and the deaths of a New Hampshire preschooler and an 11-year-old from Mississippi a week earlier. MRSA, it seems, is taking hold in the U.S. population. Staph infections can be spread by skin-to-skin contact or by sharing a towel with an infected person. In schools, athletes are particularly at risk - the crowding and lack of hygiene in gyms and locker rooms provide a perfect breeding ground for MRSA. "These situations set up the perfect scenario for the organism to invade the skin," said Dr. Pascal James Imperato, former commissioner of public health for New York City and chairman of the Department of Preventive Medicine at SUNY Downstate Medical Center. "In this setting, you have sweat and good exposure to skin. With youths who play football	http://www.naturalnews.com/023159_MRSA_superbugs.html

			or lacrosse, the skin might also be cut or scraped, making the skin more vulnerable." In response to the recent death of a student from MRSA, students in Bedford County, Virginia, demanded that their schools be sterilized. After students organized themselves over text messages and the internet to protest the unsanitary conditions at their schools - including taking the Bedford County Schools Superintendent on a tour of one high school to demonstrate the problem - the schools agreed to comply with their demands. All 21 schools in the county were closed, scrubbed and sanitized on October 17. Schools were also sanitized in Indiana and West Virginia, with a particular emphasis on locker rooms and gyms. In Illinois, state officials are considering a recommendation that would specifically encourage health care officials to report any cluster of MRSA - defined as three or more cases - in an institutional setting. This rule is intended to alert health officials to any potential epidemics in the making, before the infection spreads too widely. The recommendation was prompted by the recognition that it took officials at Naperville High School weeks to learn about the two infections in their football team, and the fact that infections diagnosed at off-site health care facilities may never be reported to the school.	
2008-0905		“William Byrd’s Alisha Royal should contend in Region III if she can shake the mystery ailment that plagued her throughout last fall and winter. Royal has been hampered by a condition that has caused her to pass out before races. While being cleared by a cardiologist and neurologist, Royal is still seeking a diagnosis.”- stress causing nuero & cardiac problems – see below	Post Article – Details problems with Alisha Royal, running in track meets since her illness over the 2007 fall and winter. This was following the outbreak at the William Byrd High school.	http://www.roanoke.com/sports/highschool/wb/175675
2008-1204		Community-Acquired Communicable Diseases:	This Slide presentation by NPH notes the and MRSA and meningitis risks in schools and provides examples and gives schools guidance on how to handle suspected outbreaks. Note the comment in the slide about not	http://www.ct.gov/dph/lib/dph/PHNursingTalk_susan_petit_12-04-

		What do you need to know? What do you need to do? Susan Petit, MPH Epidemiology and Emerging Infections Program Connecticut Department of Public Health	ordering a thorough cleaning of the school due to the cost associated with that. The Bedford county school district death was noted and the unnecessary cost of cleaning of the schools afterwards was highlighted.- MRSA cleanup: \$216,605 The cost for hiring a professional cleaning company to sanitize several Bedford County schools after MRSA cases were discovered last month: \$216,605.44. School officials said the cleaning had to be done to help deal with the community's fears about MRSA, following the death of Staunton River High School senior Ashton Bonds, apparently of complications from acquiring Methicillin-Resistant Staphylococcus Aureus. Giving the community some peace of mind while they were still learning about this bacteria was a very important step, stated Ryan Edwards, public relations coordinator with Bedford County Public Schools. We saw the fear in the eyes of the parents and the community members when this first happened. The Bedford Bulletin (Virginia), 11/6/07	08.pdf
2010-0227		Roanoke Women's Track and Field claim ODAC Crown, Men take third	Posted for Reference to Renee Rhodes participation in College Track. The Maroons also had great performances in the rest of the field for the women. Renee Rhodes (Vinton, VA, Staunton River) set a new school record in the pole vault, with a vault of 10'00". Rhodes placed third in the ODAC meet.	http://maroons.roanoke.edu/news/2010/2/27/MITRACK_0227101559.aspx?path=mitrack
2010-0310		MRSA: The Drug-Resistant 'Superbug' That Won't Die	"It [also] explains why [MRSA infections] tend to happen a lot in athletes and kids who play school sports. When a child crashes into another child in a football tackle — and one child has their on their skin, and the other child gets scraped — then the bacteria can enter their skin there," she says. McKenna notes parents shouldn't worry about letting their kids play sports, but notes that it's important to make sure children are clean. "There are things that kids do — such as not bringing their uniforms home to get washed very often or letting their shoulder pads get dirty — and then there are things that schools do as well," she says. "It was really astonishing to me to learn that kids no longer shower after gym class. ... They don't do that anymore. So if they've picked up a bacterium as they're out on the football field, it's going to be on their skin much longer."	http://www.npr.org/2010/03/23/124999740/mrsa-the-drug-resistant-superbug-that-wont-die
2010-0701		Roanoke student passes	Message from Chaplain Paul Henrickson: I am saddened to report that Roanoke College student Renee Rhodes	http://roanoke.edu/news_and_events/news_archive/renee_rhodes.htm

away suddenly



passed away suddenly on Friday, July 2, at a local hospital. **She entered the hospital with an unknown illness.** The hospital is still trying to determine the cause. Renee was a rising senior and math major from Vinton, Va. She was at home with her family this summer.

2010-0704

Obituary-Renee Michelle Rhodes

Published in Roanoke Times from July 4 to July 5, 2010. Published in Roanoke Times from July 4 to July 5, 2010.

Video Guest Book

Renee Michelle Rhodes, 21, of Vinton, went to be with the Lord Friday, July 2, 2010. She was a student at Roanoke College and was on the track team. She is preceded in death by both paternal grandparents, Beverly and Irene Rhodes and maternal grandmother, Betty Sames. She is survived by her mother and stepfather, Diane and Donnie Holland; brother, Derek Rhodes; sister and brother-in-law, Tracy and Jeff McCormack; maternal grandfather, Bill Sames, Sr.; uncle, Sammy Sames; grandma, Lillie Holland and her family; two nephews, Blake Davis and Seth McCormack; and long term boyfriend, Steven Nunnally and family. **Also surviving are her Bojangles family.** In lieu of flowers, memorials may be made to Suntrust, c/o Renee Rhodes Fund, paypal account Lioness9mm@yahoo.com. Funeral services will be conducted 2 p.m. Tuesday, July 6, 2010 at Oakey's Vinton Chapel with Chaplain Paul Henrickson officiating. The family will receive friends Monday, July 5, 2010 from 2 to 4 and 6 to 8 p.m. at Oakey's Vinton Chapel, 540-982-2221.

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<http://www.legacy.com/obituaries/roanoke/obituary.aspx?n=renee-michelle-rhodes&pid=143892926&fhid=5575>

2010-0706

**Obituary-Renee Michelle Rhodes
Published in Roanoke Times on July 6, 2010**

Renee Michelle Rhodes, 21, of Vinton, passed away Friday, July 2, 2010. Funeral service 2 p.m. Tuesday, July 6, 2010 at Oakey's Vinton Chapel, 540-982-2221.

<http://www.legacy.com/obituaries/roanoke/obituary.aspx?n=renee-michelle-rhodes&pid=143945721&fhid=5575>

2010-0706		Roanoke College Student Dies From Bacterial Meningitis	News 10 WSLs reports on Renee Rhodes sudden death from bacterially caused meningitis – details Bojangles restaurant and actions taken to prevent further spread. Bojangles is a restaurant near the town of Vinton, Va. Employees at Bojangles in Vinton were treated with a course of antibiotics as a precaution	http://www2.wsls.com/lifestyles/2010/jul/06/roanoke_college_student_dies_from_bacterial_mening-ar-360594/
2010-0706		Roanoke College Student Dies From Bacterial Meningitis By Karen McNew WSLs10 Anchor Published: July 6, 2010 Updated: July 6, 2010	On Tuesday afternoon, a funeral was held for Renee Rhodes. The Roanoke College student got sick, and died suddenly at the end of last week from bacterial meningitis, according to the Virginia Department of Health (VDH). Rhodes held the record for the pole vault at Roanoke College. She was home visiting family in Vinton, and working at the Bojangles in the town.	http://www.flutrackers.com/forum/showthread.php?p=361699 http://www2.wsls.com/sls/lifestyles/...ngitis/109760/
2010-0706-		Ronan Kelly Of Flutrackers Reports On The Death Of A Roanoke College Student, Age 21,	Renee Rhodes held the record for the pole vault at Roanoke College, student and athlete from Vinton, VA She died from complications of bacterial meningitis. She had returned to Vinton to work at a restaurant during the summer . Note that the report states she returned home to Vinton to work at. Bojangles, a local restaurant .	http://www.flutrackers.com/forum/showpost.php?p=361699&postcount=1
2010-0707		Roanoke College Student Dies Of Meningitis The 21-year-old senior died of a bacterial infection that led to meningitis	A Roanoke College student and clerk at a local fast-food restaurant died unexpectedly Friday afternoon of an unusual bacterial infection that caused her to develop meningitis. Renee Rhodes, a 21-year-old senior, complained Thursday night that her body ached , and Friday morning that she had diarrhea, said her mother, Diane Holland. Rhodes' family took her Friday morning to the doctor, who had her rushed to the emergency room of Carilion Roanoke Memorial Hospital, Holland said. "There were no warning signs before that," Holland said. "I don't think there could have been anything else that we could have done." The type of meningitis that Rhodes developed was caused by Neisseria meningitidis, a bacteria that is not highly contagious but that can be devastating , said Lex Gibson, a Virginia Department of Health epidemiologist.	http://www.roanoke.com/news/roanoke/wb/252781

			Rhodes had been a part-time clerk at the Bojangle's on Hardy Road in Vinton since 2006, her mother said. The Virginia Department of Health was working to make sure the people Rhodes may have been in close contact with are not sick, Gibson said. Rhodes graduated in 2007 from Staunton River High School and was studying in preparation to become a high school teacher, Holland said. She was a member of the track and field team, and she broke a Roanoke College record in January with a vault of 9 feet, 6 14 inches	
2010-0708		Renee Rhodes (Roanoke) Dies Of Meningitis	Rhodes, a Staunton River graduate who was a rising senior at Roanoke College. Rhodes, 21, died the same day she was taken via ambulance to Carilion Roanoke Memorial Hospital from her doctor's office in Vinton. The cause of death was determined Saturday	- http://www.polevaultpower.com/forum/viewtopic.php?t=20219
2011-0910		TV episode to tell of Bedford County teen killed by MRSA An episode of Animal Planet's "Killer Outbreaks" will tell the story of Ashton Bonds	An episode of the show "Killer Outbreaks" slated to air Monday will feature the story of a Bedford County teenager who died after an antibiotic-resistant staph infection known as MRSA spread to his internal organs. Ashton Bonds of Lynch Station died Oct. 15, 2007. He was 17 and a senior at Staunton River High School.	http://www.roanoke.com/news/roanoke/wb/298013
2012-0123	?Not sure of dates of meets	Renee Rhodes, Roanoke (2010 Death) and Alisha McCrowey, Vinton Roanoke(2007 Mystery Illness victim) both have records recorded ODAC in Track.	Assuming Alisha was 16 during the William Byrd outbreak, this would have made Renee Rhodes the same age as Alisha and they were likely competing at the same time during the outbreak in these track events	http://www.odaonline.com/leagueLeaders/otrk-w
2012-0123		Staphylococcus Aureus From Wikipedia, The Free Encyclopedia	Staphylococcus aureus (also known as golden staph) is a bacterium, frequently living on the skin or in the nose of a healthy person, that can cause illnesses ranging from minor skin infections (such as pimples, boils, and cellulitis) and abscesses, to life-threatening diseases such as pneumonia, meningitis, endocarditis and septicemia	http://en.wikipedia.org/wiki/Staphylococcus_aureus
2012-0123		Meningitis From Wikipedia, The Free Encyclopedia	Aseptic The term aseptic meningitis refers loosely to all cases of meningitis in which no bacterial infection can be demonstrated. This is usually due to viruses, but it may be due to bacterial infection that has already been partially treated, with disappearance of the bacteria from the meninges, or by infection in a space adjacent to the meninges (e.g. sinusitis).	http://en.wikipedia.org/wiki/Meningitis

Endocarditis (infection of the heart valves with spread of small clusters of bacteria through the bloodstream) may cause aseptic meningitis. Aseptic meningitis may also result from infection with spirochetes, a type of bacteria that includes Treponema pallidum (the cause of syphilis) **and Borrelia burgdorferi (known for causing Lyme disease)**. Meningitis may be encountered in cerebral malaria (malaria infecting the brain). Fungal meningitis, e.g. due to Cryptococcus neoformans, is typically seen in people with immune deficiency such as AIDS. Amoebic meningitis, meningitis due to infection with amoebae such as Naegleria fowleri, is contracted from freshwater sources.[2]

Recent trauma to the skull gives bacteria in the nasal cavity the potential to enter the meningeal space. Similarly, individuals with a cerebral shunt or related device (such as an extraventricular drain or Ommaya reservoir) are at increased risk of infection through those devices. **In these cases, infections with staphylococci are more likely, as well as infections by pseudomonas and other Gram-negative bacilli.**[3] The same pathogens are also more common in those with an impaired immune system.[1] **In a small proportion of people, an infection in the head and neck area, such as otitis media or mastoiditis, can lead to meningitis.**[3] Recipients of cochlear implants for hearing loss are at an increased risk of pneumococcal meningitis.[13]

Mechanism

The meninges comprise three membranes that, together with the cerebrospinal fluid, enclose and protect the brain and spinal cord (the central nervous system). The pia mater is a very delicate impermeable membrane that firmly adheres to the surface of the brain, following all the minor contours. The arachnoid mater (so named because of its spider-web-like appearance) is a loosely fitting sac on top of the pia mater. The subarachnoid space separates the arachnoid and pia mater membranes, and is filled with cerebrospinal fluid. The outermost membrane, the dura mater, is a thick durable membrane, which is attached to both the arachnoid membrane and the skull.

In bacterial meningitis, bacteria reach the meninges by one of two main routes: **through the bloodstream or through direct contact between the meninges and either the nasal cavity or the skin.** **In most cases, meningitis follows invasion of the bloodstream by organisms that live upon mucous surfaces such as the nasal cavity.** This is often in turn preceded by viral infections, which break down the normal barrier provided by the mucous surfaces. Once bacteria have entered the bloodstream, they enter the subarachnoid space in places where the blood-brain barrier is vulnerable—such as the choroid plexus. Meningitis occurs in 25% of newborns with

bloodstream infections due to group B streptococci; this phenomenon is less common in adults.[1] Direct contamination of the cerebrospinal fluid may arise from indwelling devices, skull fractures, **or infections of the nasopharynx or the nasal sinuses that have formed a tract with the subarachnoid space** (see above); occasionally, congenital defects of the dura mater can be identified.[1]

The large-scale inflammation that occurs in the subarachnoid space during meningitis is not a direct result of bacterial infection but **can rather largely be attributed to the response of the immune system to the entrance of bacteria into the central nervous system**. When components of the bacterial cell membrane are identified by the immune cells of the brain (astrocytes and microglia), they respond by **releasing large amounts of cytokines**, hormone-like mediators that recruit other immune cells and stimulate other tissues to participate in an immune response. **The blood-brain barrier becomes more permeable, leading to "vasogenic" cerebral edema (swelling of the brain due to fluid leakage from blood vessels)**. Large numbers of white blood cells enter the CSF, causing inflammation of the meninges, and **leading to "interstitial" edema (swelling due to fluid between the cells)**. **In addition, the walls of the blood vessels themselves become inflamed (cerebral vasculitis), which leads to a decreased blood flow and a third type of edema, "cytotoxic" edema**. The three forms of cerebral edema all lead to an increased intracranial pressure; together with the lowered blood pressure often encountered in acute infection, this means that it is harder for blood to enter the brain, and brain cells are deprived of oxygen and undergo apoptosis (automated cell death).[1]

It is recognized that administration of antibiotics may initially worsen the process outlined above, by increasing the amount of bacterial cell membrane products released through the destruction of bacteria.

Particular treatments, **such as the use of corticosteroids**, are aimed at dampening the immune system's response to this phenomenon.[1][4]