

# AMHE NEWSLETTER

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## AMHE NEWSLETTER

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## Vaping, the addiction of a new generation of teenagers?

Maxime Coles MD

Our kids have the tendency of following each other. They want to try it all. Authorities have fought to legalize Marijuana and I am sure that many would have been happier to see more potent drugs added to the list and available on the market for personal use. Vaping came as a way of being cool and many took the opportunity to mix the ingredients with more potent drugs. Cigarette smoking was found for years to be responsible for initiating cancerous

lesions in the lungs and the government including the CDC have permitted for so long its use in public areas. Smoking a cigarette or a cigar was a sign of being a “macho man”. High school kids and College kids have changed their way and have learned from this new trend in playing the game by trading cigarettes and cigars to e-cigarettes and Vaporizers.

Vaping has become very popular among the young men and women in high schools, colleges and universities. I am not too sure why so many have chosen this path while drinking and taking more potent drugs have also become the norm in their social gatherings. The first time, I saw the apparatus allowing the young to “vape”, I was surprised to a point that I confronted the parents to ask them why they were giving authorization to their kids to smoke drugs. I was told that there was no drug involved in the mechanism. I accepted the answer and remembered that same kid being transported to the

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emergency a month later for what I understood was an overdose experience. In my mind, I did not see the difference and I swallowed my pride. I accepted the explanation of this parents justifying the incident and decided to look for other reasons. Soon, I realize that the use of a Vaping apparatus at home as a social activity among the visiting kids, was a norm. What a party! I told myself.

I remained ignorant but looked for answers to satisfy my curiosity. I learned that the act of inhaling or exhaling, was releasing an aerosol, often referred to “Vapor”, the same way it is produced by the e-cigarette or similar device. I was told that they were using the term simply because the e-cigarettes did not produce tobacco smoke but rather an aerosol often mistaken for fine particles of water vapor. Those particles were found to contain different amount of toxic chemicals linked to cancer in the pulmonary tree and toxic to the heart.

Vaping has grown in popularity especially after the introduction of the e-cigarettes in the United States (2007). One of the prime selling point is that the use of e-cigarettes has helped smokers wean themselves of traditional cigarettes. Many devices are available to “vape” like e-cigarettes, or vape pens, and more sophisticated advanced personal vaporizers known as “Mods”. The e-cigarette reminds a regular cigarette while the vape pens look like large fountain pens which can be customized for the user. In general, a vaping device consists in a mouthpiece, a container for the “e-liquid” or “e-juice” and a heating component, powered by a battery able to heat the component to degrade it into an aerosol ready to be inhaled at will.

The “e-liquid” contains a propylene glycol or a vegetable glycerin-based liquid mixed with a Nicotine flavoring material and other chemicals or metallic elements, but not tobacco. Many have also used the vaporizing cannabinoids “Vape THC” responsible for most of the marijuana mind-altering effects, or even drugs like flakka to replace the nicotine. A new product is presently on the market. It is called the “JUUL” This device looks like a USB computer drive, easy to hide in a pocket but used in Vaping. This is also the reason why it is so popular among middle and high school

students. It is presented under different shades. Every JUUL contains a high dose of nicotine loaded in cartridges with a choice of flavors like crème brulee, mango, strawberry cheese cake, cucumber by example and is sold only to customers older than 18. It is estimated that about 11.5 billion in sale, are generated with the market of vaping products around the world.

Certainly, Vaping is free of smoke but is not risk free. The nation’s Drug and Food Administration announced in November 2008, plans to limit sales of most types of flavored e-cigarettes to vaping stores. It became so popular among middle-schoolers, high schoolers and college kids that the age of 21 was proposed for the purchase of any vaping product. Inversely, Countries like Brazil, Greece, Saudi Arabia, Thailand and Turkey banned their sales. Many deaths, at least 6, have been recorded through the United States of America because of a mysterious disease involving the lungs: 380 confirmed cases in 36 states and the US Virgin Islands, were cited, in a recent report and many more have visited the emergency rooms. It is not yet clear of what exactly is causing the illnesses affecting mostly young men who are vaporizing cannabinoids like THC. The culprit may be some chemicals like vitamin E acetate used illegally in vaporizers. This substance has been found in all cannabis containing vapes. The Trump administration has cautioned about the practice of vaping under all forms and menace to place a ban over all flavored e-cigarettes in the USA, including mint and menthol flavors, until a plausible explanation can be given to this epidemic of youth e-cigarettes. Unfortunately, the users are also aware of the dangers linked to inhaling vapors.

Vaping added to a high consummation of Alcohol or mix to different potent drugs can bring “enjoyment” to the users especially with the legalization of Marijuana in so many states. It has also become a hobby very popular among drug users. A quick acting component can easily be added in a fairly discrete way for medication or pleasure. Although this form of

delivery of the substance is considered safer than smoking, Vaping is short for Vaporization commonly used as a way of delivering cannabis. The user inhales the vapors of cannabis generated from the heating of the active compounds at low temperatures. Contrarily to smoking cannabis, there is no combustion or burning at these low temperatures (200 degrees), so no smoke is generated. Researchers have quickly concluded recently that this form of delivery was safer because, there was no creation of carcinogen like benzene, toluene and naphthalene associated to its combustion. This is why vaping is preferred over smoking with less side effects or risks to the respiratory system. Smoke in the contrary is known to cause allergies and irritation to the lungs producing cough and phlegm. In 2000, at the University of McMaster in Hamilton, Vethanayagam a pulmonologist at the University of Alberta with his colleagues, reported a woman who had “lipoid pneumonia” after in her practice of Vaping.

To vape the cannabis, you need a vaporizer which can fit a desktop, or be portable or handheld with a power source (battery or plug), a heating element (heater or atomizer), a chamber to pack the cannabis flower or any concentrate, a button to activate the heat and finally a mouth piece to inhale the vapor through. Popular vaping products have reached the market under the form of dry flower vapes, Pax 3 (dry herb) sold internationally, Absolute Xtracts in California, Avilas in Washington, O pen in Colorado etc. They can be purchased on line or at local smoke shops. Prices range between 25 to 300 dollars.

We do know that any tobacco product including e-cigarettes are unsafe to youth. Nicotine can harm the developing adolescent brain, the cilia in the lungs that clear the mucus and is certainly a powerful additive. A chunk of nicotine in a pod may be the equivalent of a pack of cigarettes, rendering the youth easily addicted. People

suffering with lungs or throat discomfort, may find vaping more accommodating than smoking to avoid more irritation. It is also easier to dose the cannabis with the specific vape pens. Vaping is not without dangers especially when using cannabis through a deficient vaporizer, then the additive become harmful to the users once the substance is heated. The common additive is propylene glycol which is known to induce asthma and allergic reactions in producing higher levels of acetaldehyde and formaldehyde than propylene glycol. This is why it has been suggested to use low temperatures when vaping, in order to avoid these carcinogenic by-products. No matter what company manufactures the vaporizers, you will inhale hot aerosol ultrafine particles of aldehyde, diacetyl etc. Side effects like dizziness, hypotension, tachycardia, loss of memory or concentration as well as anxiety can surface. This can become habit-forming for people using THC. They are not recommended for people suffering from mental illness like schizophrenia, bipolar disorder, anxiety and depression. nor they should be used in people ingesting alcohol and other drugs

To conclude, it may appear that Vaping brings with it use, advantages that a regular smoker looks for, but there is no long term data to conclude that it is a safer choice to lighting up a cigarette. Facts appear to be conclusive that e-cigarettes aerosol can damage the pulmonary tree the same way Nicotine does. Some evidence suggests also that the by-products can harm the brain as well as the heart. I wish to all young men involved in this hobby, to try to find time to get familiar with the complications of such Vaping activities and weight the consequences to avoid being part of the statistics.

Maxime Coles MD

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Rony Jean-Mary, M.D.

## Le drame profond que vivent au quotidien les Haïtiens de Bahamas...

Le cyclone Dorian vient de finir sa course dans le nord de l'Atlantique. Les dégâts et les ravages qu'ils a laissés sur son passage se chiffrent en milliards de dollars d'une part, et se comptent de l'autre, en milliers de vies humaines portées disparues ou terrassées en un jour, sous les rafales du vent et les assauts répétés des pluies torrentielles. L'effet dévastateur du cyclone Dorian s'est donc fait sentir un peu partout sur la cote Est des Etats Unis, et particulièrement sur l'Archipel des Bahamas où le vrai visage du monstre a déjà commencé à se montrer.

Même en comptant les morts et les blessés, l'on ne saura jamais le nombre exact de victimes, tant est innombrable la liste des disparus, des noyés, des sinistrés et des déplacés. Les Haïtiens qui vivaient déjà dans des taudis et dans des abris de fortune, sont parmi les premiers à être touchés par cette catastrophe. Ils n'avaient presque rien et vivaient dans des conditions d'insalubrité presque inconcevables.

Mais le drame serait bien moins funeste s'ils pouvaient, en toute quiétude, reprendre le fil de leurs vies, là où il s'est cassé, et se mettre à les recoudre. Malheureusement, ils semblent être pourchassés, humiliés traités comme des sous-êtres, même après que le cyclone ait fini de faire sa course

Les Haïtiens n'ont jamais été aimés aux Bahamas. Les Bahamiens sont très ignorants de la culture et du mode de vie de l'Haïtien. Ils ont une idée complètement erronée de qui nous sommes, de ce qui nous caractérise en tant que peuple....

Nous sommes allés à Nassau Bahamas pour notre convention annuelle il a de cela un peu plus de 4 ans, soit juste avant Porto Rico, Costa Rica, Haïti, Colombie et Cuba. Il était difficile de trouver un groupe de Bahamiens capables de croire que des professionnels Haïtiens pouvaient se réunir en congrès à Nassau. Ils nous attribuaient alors toute autre nationalité sauf que nous ne pouvions pas être des professionnels Haïtiens de haut niveau, toutes couches confondues. Ils avaient en tête un stéréotype d'Haïtien qui ne s'accordait pas avec ce que nous étions venus faire chez eux. En fait, nous avons parfois de nous-mêmes, l'un vis-à-vis de l'autre, le même stéréotype que le Bahamien ou le Dominicain sous-éduqués se font de nous. Nous sommes une société extrêmement polarisée, avec des groupes disparates vivant chacun aux antipodes des autres, pour ne pas dire un assemblage de briques montées l'une à côté de l'autre formant un pan de mur, mais sans le ciment ou la glue qui nous maintiendrait

attachés . L'haïtien a une vue très nasale de son pays et de ses concitoyens. Très peu ont visité les monuments historiques de chez nous alors qu'ils ont déjà visité Jérusalem et la piscine de Jouvence .Il y a en nous une méfiance innée vis-à-vis des autres qui nous empêche d'aller au delà de nos idées mesquines et sectaires. Voilà pourquoi beaucoup parmi nous préfèrent dire des fois qu'ils 'ne s' associent pas a leurs concitoyens ou qu'' ils sont les seuls de leur genre à vivre dans un quartier X donné Ce n'est pas la faute à l'étranger si au beau mois de juin, quand je suis rentré au consulat de mon pays pour refaire mon passeport, je m'entends dire qu'il n'y'aura pas de livrets disponibles avant trois mois. Je me suis alors demandé si ces hommes connaissent L'ABC du mot planification ; ou mieux pourquoi ils nous traitent, nous autres leurs sujets, d'une manière aussi dérisoire et méprisable. ? Savent-ils que les deux époques où l'Haïtien retourne chez lui en plus grand nombre sont décembre et les grandes vacances, avec les fêtes champêtres un peu partout dans le pays ?..L'Etat- service n'a jamais existé dans ce pays. On ne nous a jamais pris au sérieux. On laisse les citoyens prendre la mer sur des embarcations de fortune quitte à faire naufrage au beau milieu de l'océan et à y laisser leur peau. La surveillance de la cote maritime n'est pas une priorité pour celui qui doit s'acheter un Vila en république Dominicaine ou ailleurs en Floride. La République Dominicaine est Fatiguée de nous ; et les Bahamiens aussi qui nous voient arriver en guenilles, incapables de rien leur offrir, sont bien fatigués de nous.

J'ai entendu des choses horribles cette semaine sur les haïtiens de Bahamas., si horribles que j'avais du mal à dormir la nuit. Cette femme, septuagénaire, bahamienne, nous insultait au point de dire que même Dieu est fatigué des Haïtiens. Je ne sais pas si Dieu est déjà fatigué de nous mais je me demande jusques a quand ? Jusqu'ou ira -t-il dans sa patience ?

j'avais même peur que les Haïtiens de Bahamas ne subissent un sort pareil à ceux du

temps de Trujillo en République Dominicaine. Nos frères et sœurs qui vivent aux Bahamas sont en train de connaître des moments difficiles là-bas. Malheureusement, rien n' a jamais fouetté notre orgueil de peuple ni causé en nous ce sursaut de patriotisme qui nous porterait à mieux faire la prochaine fois sinon à changer de cap. .

L'association médicale Haïtienne à l'étranger, plus particulièrement le chapitre de la Floride, ont pris sur eux d'aller vers ces demunis, de leur venir en aide..Nous avons déjà dit dans un communiqué combien nous sommes touchés et attristés par leur sort .Nous avons préparé des boites de vêtements, d'aliments, et de kits scolaires, une trentaine de boites au total, qui formeront la première cargaison de secours vers les sinistrés. Nous ne pouvons pas tout faire. Le poisson est déjà pourri dans la tête .Mais nous ne pouvons pas non plus pratiquer une sorte de politique d'autruche qui consisterait à enfouir notre tête dans le sable en attendant que le mauvais moment vienne à passer.

Nous n'accusons personne d'être responsable de leur maux. Mais la responsabilité est collective ou mieux doit être assumée par tous. On peut bien être responsable sans être coupable pour autant.. Je vous demande d'aider l'association médicale Haïtienne à l'étranger, d'aider le chapitre de la Floride à faire face à cette catastrophe humanitaire. Car prétendre se décharger de ses responsabilités en se cachant derrière un silence opaque est une preuve de plus de son inconscience de la gravité de l'heure et de l'urgence qui s'impose.

**LE PROBLEME DES HAITIENS VIVANT DANS L'ARCHIPEL DES BAHAMAS EST GRAVE. C'EST UN DRAME QUI NOUS INTERPELLE TOUS. !!!!**

Rony Jean-Mary, M.D.  
Coral Springs, Florida  
le 16 Septembre 2019



*Reynald Altéma, MD*

## **The uplift of a fillip.**

This commencement day had a certain buzz. In a departure from common practice, the school administration acceded to the Student Government's leadership request and made an eyebrow-raising decision, tailor-made for second guessing: Valedictorian would deliver keynote speech. They made such a choice due to the unusual epical story of the student, Mostène Jean, commonly called Mostie, whose story rivals the Phoenix's. Starting from a triple handicap against success: poverty, foreigner and no fluency in English (being black an unstated but obvious factor), he had to overcome two near-fatal MVAs, the second one leaving him with a permanent limp and partial blindness of left eye and yet he's graduating on schedule without missing a beat. He also made the bold decision to have two majors, Math and Physics and two minors, Computer Sciences and Mechanical Engineering. He also had a string of perfect scores in final exams, a remarkable feat by any standard. Even for a school historically known as a bastion for talented immigrants, such a storyline of a wunderkind stood out.

This June day weighed heavily on Mostie's mind. He knew he would be facing a crowd of skeptics and had to deliver an appropriate speech to make that decision sound and not a folly. A decision he had no say in but one that only he could influence the outcome of. Somehow all of his life, he has had to weave out of tight corners. Whereas his willpower, his dogged pursuit for excellence have been operating in privacy, away from public glare, now he would be under a microscope with lenses as powerful as a telescope's. He had a fifteen-minute-tops allocation to make his case. In front of a crowd, not his favorite pastime or cup of tea.

Paradoxically, his rags-to-academic success story was

filled with riches of anecdotes, stumbles turned into impetuses. How would he convey an interesting story to make a compelling narrative? How would he avoid sounding pedantic, pompous, pious, or preaching-like only to bore the audience? This was a challenge unlike any other because it wasn't his comfortable world of black and white, binary construct in the hard sciences but the minefield environment of social sciences, layered with different shades of gray, filled with subjective, hence unpredictable opinions.

Mostie was at his wit's end. He was taken in a push and pull internal debate about emphasis on half empty or half full glass. He finally sided with the upbeat mode, the persuasive pulse of a clarion call for a jubilee instead of flat tone of the blues mourning its death knell, like focusing on vaunted rose instead of its thorny stem. His scientific view of reaching point B from point A was meeting the notional cachet of hardship followed by reward. The trick was in the delivery of an appealing tale and not a jeremiad. As emblematic of his triumph over the triad of handicaps, the only one he could most easily influence, his English skills, was to be in full display to complete the circle or close the book.

"Ladies and gentlemen, faculty members, I nurture no pretense of oratorical skills, but I am a hard-working fellow willing and able to fulfill a dream of learning, not experienced enough to be wise but not a newt enough to be naïve. I have been lucky to have benefited from timely and propitious fillips. No better gesture illustrates the positive vibration of fillip than the symbolic

choice made by my fellow students for this merry day. Let me say it loud and clear: I am very grateful. I want to thank the numerous teachers who supported my effort, albeit initially skeptical but subsequently my most ardent advocates. A special thank you goes to my fellow classmates who spontaneously offered me notes on missed classes during my recovery from a car accident when I fell asleep behind the steering wheel while working as a limo driver. This is part of the generous spirit of America I have discovered, filled with a critical mass of good-will people, mollifying simmering hatred and prejudice. Every single nice gesture thrown my way has gone straight to warm my heart.

The journey that landed me here has not been smooth sailing, but I am the better for it. Turning a negative experience into a helpful fillip is like a birthing, painful as it happens but so joyous thereafter for the reward found. My first one was the most momentous for the seminal change it wrought, yet as it was happening, it looked like anything but a fillip. An insult with enough vitriol and venom to deflate and defang one's pride was leveled at me but I had the fortunate gumption to upend its intent. I was a new immigrant, penniless, trying to make a decent living by driving a gypsy cab and a passenger called me 'stupid and ignorant' because I didn't know then the Bronx is a borough and not a street. Indeed I was ignorant of that fact but stupid I was not and neither was I an ignoramus. Therefore I set out to become familiar with the place I was living in, fluent in the language spoken and above all I made the decision to never again put myself in a situation bereft of information going in. Hence began my love affair literally with a cherished place called library spending countless hours listening to English tapes. Little did I know this would reward me with a triffecta. My constant request for tapes caught the attention of the cutest woman in the world who eventually became my wife two years ago. She steered me to applying to this institution and my life has forever changed for the better.

The lesson and truth I learned from that random-turned-fortuitous episode was that an obstacle can be an opportunity under disguise if seen from the viewpoint of overcoming the challenge, and not fall for the trap called despair, veering into surrender. Every conversation I have had with my companion since has been a collection of real, helpful fillips. Thank you very much my darling.

My exuberance for the learning process was at times misinterpreted, challenged, mistaken for misplaced hubris, misguided boldness or utopia dreaming. 'Not smart enough to major in math,' or 'only a fluke

explains a perfect score,' and '2 majors, are you serious?' such comments were thrown at me on a regular basis by students and teachers alike because of my background. Luckily my solid footing and grounding helped me. Such refrain had the opposite of the intended effect. Rather than a headwind, or a turbulence, the negative feedback created a wind beneath my wings giving me a lift and resolve with the propulsion of a tailwind. We need to remember that talent is color, gender, nationality blind. This will serve us well in the future when competition for scarce natural resources becomes fiercer and the fittest to help in our survival will come from all origins and backgrounds.

My goal in mentioning these facts is not to pat myself on the back or to show off. Far from it. I am sharing with many of you the observation that measured self-confidence is a good antidote to potential depression engendered by constant criticism. It ranks among the top at the pyramid of qualities to have for success and serves as a fillip in its own right.

My story is not that different from others' who were able to overcome adversity. Mine may have its particular twists but the obvious truth is relationships matter and can make all the difference. No matter my resolve, there were many moments of self-doubt and my companion's steadfast presence and encouragement soothed bruised feelings, for as a human, cumulative negative comments can levy a toll.

Our diploma today smells like a fresh and blooming rose that has been playing hard to get, looks like a coveted prize at the end of an obstacles course, irradiates like a bright and shiny light at the end of a dark tunnel, excels in its role as the ultimate fillip for our self-esteem. It anoints one with membership to a respected club and bestows upon us a seal of approval for attaining a well sought-after and deserved level of accomplishment. Last but not least, it reeks of a special look and feel begging for the showiest if not most ostentatious frame. Let the love fest begin!

Nonetheless we need to remember that going forward, we will not always have ready-made answers, we will need to build on what we learned in the classroom, we need to keep an open mind about new ideas and concepts while holding fast to time-tested values like friendship, true love, reliability. May our many morrows be bright and sunny and when they are not, let's not be so ready to fall into despair and be reminded that no matter how bad our lot is, others have it worse."

# Anthrax

Maxime Coles MD

Anthrax is a rare but serious infectious disease caused by an anaerobic gram-positive, rod-shaped bacteria known as "*Bacillus Anthracis*". It is a spore-forming bacterium which may affect livestock and humans. Although it is rare, people can get sick if they come in close contact with infected animals or contaminated animal products. We chose to discuss this topic, this month, because of many cases recently discovered in our country, in area like Jeremie, Haiti, where the disease is endemic.

I remember like it was yesterday the first time I saw the manifestations of this disease in a 42-year-old gentleman farmer examined with the Late Raoul Pierre-Louis MD, dermatologist, Dean of the Medical school and chief of the Department of Dermatology. Our group of externs was performing in a mandatory rotation in the external clinic of Dermatology and we were eager to learn. We looked for appropriated gloves to satisfy our curiosity and palpated a painless lesion on the patient's right forearm. We understood then, that he was constantly in contact with horses and has recently lost two animals without being able to understand the reason behind their death. I was told that the skin lesions were strongly contaminant especially when a "pustule" was present, but it is clear to me that Science has no proof that one could be contaminated by another human being.

The term anthrax comes from the Greek word for "coal" because of the color black of the skin lesions. The black eschar has been the hallmark of the disease in its cutaneous manifestation. The English were the first to coin the word 'anthrax' in 1938. but other names have surfaced through the years like "Siberian plaque", "Cumberland disease", "Charbon", "Splenic fever", "Malignant Edema", "wool sorter's disease" and "La maladie de Bradford".

In Wolsztyn, Poland, a German physician and scientist, Robert Koch, identified a bacterium responsible for the disease in 1875 and he established for the first time, a relation between the clinical symptoms and the infectious agent. He studied the mechanism of the disease, uncovered the lifecycle and the means of transmission. His work awarded him the Nobel Prize in Physiology and Medicine in 1905, for his discovery at a period when scientists were still believing in a "spontaneous generation" theory. Koch went on to study another bacillus related to Tuberculosis, and coined his name to it. Other physicians were more concerned on how to prevent the animals or the humans from catching the disease. John Henry Bell, a physician based in Bradford made the link between the "wool sorters" and the Anthrax disease in 1878. but it was a German bacteriologist, Friederich Wilhelm Eurich who elucidated the problem of industrial anthrax. He was instrumental also in dressing the Anthrax Prevention Act in 1919.

Anthrax is a rare human disease which can be seen in underdeveloped countries like Haiti or any other countries lacking public-health regulations preventing exposure to infected goats, cattle, sheep and horses. The disease can be also seen in dogs and cats. It is most common in Africa and Southern Asia and occasionally can be seen in Southern Europe. The disease is very uncommon in the United States and Northern Europe. Around the world, 2,000 cases a year are reported while only 2 cases have been discovered in the United States.

Drum players, drum makers and their family have been infected by close contact. Veterinarians, farmers, travelers visiting areas where anthrax is endemic, laboratory personnel, mail handlers, military personnel, individual trained in bioterrorist and biological warfare are all at risk to develop the disease when exposed to the bacteria. In bioterrorism, there is an intentional will to release biological agents like viruses, germs or bacteria. Anthrax is one of the disease caused by this intention like botulism, plague, smallpox, brucellosis, ricin toxin poisoning, cholera, epidemic typhus, viral encephalitis, tuberculosis to name only some. Concentrated anthrax spores were used for bioterrorism in 2001 anthrax attacks in the United States and delivered by mailing letters containing the spores to media news offices and two democratic senators. As a result, 22 were infected and 5 died. It seems that only 2 grams of material were used to carry the attack. Now the US Postal Service has installed biohazard detection systems at his major distribution center to scan for anthrax.

Anthrax can infect a host in four ways:

- 1- Through the skin with the presence of a dark sore.
- 2- Humans and animals can contract it from carcasses of dead animal previously contaminated with Anthrax. Ingesting the bacteria can cause serious contamination and death.
- 3- The inhalation of the spores brings the deadliest form of the disease. Once inhaled, they migrate to the lymph nodes in the chest and proliferate and spread in producing toxins causing death.
- 4- A new form by injection has been described in heroin drug abusers.

Skin infection is the more common manifestation, seen in 95 % of the cases. Without any treatment, the risk of death from a cutaneous anthrax ranges in the 24%, while the risk of death in anthrax involving the gastrointestinal tract ranges in the 25 to 75%. The risk of death in respiratory anthrax is 50 to 75 % even with appropriated treatment. Prior to the 20<sup>th</sup> century, anthrax infections killed hundreds of people and animals each year but now that the bacillus has been used as a weapon of mass destruction, we would expect the number to grow extensively. Animal eating plants can breathe the spores while grazing and carnivores may ingest meat of an infected animal with the bacteria and contract the disease. Spores can survive in harsh conditions for many years. In such form, it has been found on all continents, included Antarctica.

Occupational exposure to infected animal or their products (skin, wool, meat) is the usual pathway for exposure to a human being. Workers who are exposed to dead animals carrying the disease are at risk for contamination. Anthrax in livestock grazing especially when wild animals are kept together, can happen in the United States or elsewhere. Generally, it is believed that workers dealing with wool are constantly exposed to anthrax spores but the exposure level may not be sufficient for them to develop an Anthrax infection. The inhalation of at least 10,000 to 20,000 spores can result in such infection. In the past, those workers, victims of inhalation of the anthrax spores, were called “wool sorters”, as an occupational hazard. Nowadays, this form is extremely rare because of almost, the absence of animals with anthrax.

It is obvious that one does not find evidence that Anthrax can be transmitted from person to person, but it is possible especially when we know that the skin lesions found in the disease may be contagious at the pustule stage, through direct contact. It is expected that a brake in the texture of the recipient’s skin may allow the penetration of the bacillus, then exceptionally transmit the disease. Anthrax is a life-threatening disease affecting animal’s ruminants like goats, sheep and horses. The bacillus is a Gram positive, anaerobic rod able to survive in a form of spores, very resistant and difficult to destroy. The bacteria were able to secret three toxins in form of proteins: Protective antigen, Lethal factor, and Edema factor which when combined together, present a menace to the one inhaling the spores.

In recent years the bacillus of Anthrax has received a lot of publicity for its involvement in terrorist attacks. In fact, it is little known that the bacillus of Anthrax has been used as a weapon for the last hundred years. In 1916, the Nordic Rebels, supported by the German General Staff used anthrax spores in Finland against the Imperial Army. In the 1930s, the Japanese Kwantung Army, in Manchuria, performed testing on prisoners of war, killing thousands. Anthrax was investigated as “Agent N”, by the allies in 1940. In 1942, British bioweapons trials severely contaminated Gruinard Island. in Scotland with anthrax spores of the” Vollum-14578 strain” until it was decontaminated in 1990. An N-bomb containing dried anthrax spores, and 5 millions of cattle cakes (pellets impregnated with anthrax spores) were prepared for contamination of the cattle in Germany, and expected to be dropped by the Royal Air force in 1944 with “Operation Vegetarian”. They were not used but needed to be incinerated in late 1945. They remained in stock until President Nixon ordered the dismantling of the US bio warfare program in 1969.

We know well the involvement of the CIA in delivering to the anti-Castro rebels, spores of anthrax to start the destruction of the pigs on the island of Cuba. The weapon was delivered on a military base in Panama and transported to the island of La Navase, and then to Guantonamo. The infestation of the pigs was successful necessitating the killing of 200.000 animals was necessary to avoid the propagation of anthrax to the entire island of Cuba. (Reported in AMHE Newsletter # 261: 9-2-19). In 1979, the Rhodesian government used anthrax against cattle and humans to fight the rebels. The Soviet Union created and stored almost 200 tons of

anthrax at Kantubekon Vozrozhdeniya island. The project was abandoned in 1992 and the anthrax spores were destroyed in 2002.

In 2001, Anthrax was used for the first time in a mass mail delivery as a powder, in the United States and was spread through many postal service stations, infecting twenty-two (22) postal workers and killing 5. The spores of Anthrax do not spread generally from person to person either. In Sverdlovsk, Russia, an accidental release of anthrax from a biological weapon complex, exposed at least 94 persons on April 2<sup>nd</sup> 1979. At least 68 people died, some four days after, some a week after. The last fatal case of inhalation in the USA, occurred in California, in 1976 when a home weaver died after working with infected wool in provenance of Pakistan. The deceased person was bagged and transported to UCLA for autopsy. There have been many outbreaks recently in the world notably in Siberia, Russia (2016), killing 2000 reindeer and 13 Siberians. The authorities believed that this localized outbreak was due to the fact that an infected reindeer which died 75 years ago, was unburied, causing the release of multiple spores.

The disease has a short period of incubation going from one to five days and rarely may take weeks before the infected individual become sick. Let us review the different types:

Cutaneous anthrax represents 90% of all cases. Some has called this phase “hide-porter disease” and it starts with a red spot that increase in size, presenting signs of inflammation, blistering and hardening. The center of the spot becomes itchy and ulcerated creating a crater with blood-tinged drainage followed by the formation of a black crust called eschar. This eschar is painless and some described it as a bread mold which falls off in weeks. The lymph nodes in the area becomes apparent and swollen. Soon they are painful and infected. The victims accuse then muscle aches and pain, headache, fever, nausea and vomiting. resolving in six weeks. Death may occur if proper treatment with antibiotics is not administered in time. It is the least dangerous form with a low mortality rate with treatment and with a 20% mortality rate without any treatment. This form is generally found when humans handled infected animals and their products. If appropriately treated, this form of anthrax is rarely fatal because the infection is mainly limited to the skin preventing the release of toxins that still can be seen in 20 % of the cases with subsequent toxemia.

Anthrax by inhalation, brings subtle and gradual signs of flu-like with sore-throat and headaches in a first stage and then the illness worsens in a few days into severe respiratory distress with shortness of breath, cough and chest pain. This form of catching the infection is rare. The disease attacks first the lymph nodes causing flu-like or cold symptoms. Soon, patient will demonstrate an increase in temperature, shortness of breath, cough, fatigue and chills. It is important to recognize the disease because fatalities from inhalation anthrax do happen if left untreated. A second stage will manifest with an unusual pneumonia, spreading from the lymph nodes and to the lungs in days following the original inhalation. It is not a true pneumonia. High fever and extreme shortness of breath can be seen. Patient can even cough blood until shock or coma ensues. The macrophages killed the spores or they get transported to the chest lymph nodes and into the lungs. Soon, the entire body is infected. Most affected (85%) at that stage will die if proper antibiotics are not immediately delivered to kill the bacteria but unfortunately not the deadly toxins already released through the body will be controlled.

In the herbivores or humans, the infection by inhalational route, will allow the inhaled spores to be transported to the air passage into the alveoli, in the lungs. The spores are picked up by the macrophages and directed through the lymphatic system into the mediastinum. Damage by the spores and the bacilli causes chest pain and difficulty in breathing. In the lymph nodes, the spores germinate into active bacilli to burst the microphages releasing more bacilli into the blood stream. Once in the blood stream, these bacilli release 3 endotoxins: Lethal Factor, Edema Factor, Protective antigen which in combination are very lethal to the humans while individually they are not offensive. They induced an extensive tissue destruction, bleeding and the death of the host if left untreated. During the 2001 anthrax attack, these considerations were taken on time and the fatality rate fell down to 45%. You need seriously to distinguish pulmonary anthrax from the more common causes of respiratory illness to avoid any delay in delivering the appropriated antibiotics and to improve the outcomes. Anecdotally, in 2008, a drum maker in the United Kingdom who generally works with untreated animal skin, died of anthrax by inhalation.

Gastrointestinal anthrax is the result of absorption of undercooked and contaminated meat with the bacillus. Patient soon becomes symptomatic with nausea, loss of appetite, bloody diarrhea and fever with intense abdominal pain and loss of appetite. Occasionally, bloody vomiting can be seen as well. The bacteria invade through the bowel wall and the infection spreads throughout the entire body via the bloodstream with a deadly toxicity. Lesions have been found in the intestines, the mouth and the throat. Gastrointestinal infections can be treated with appropriated antibiotics but results in fatality in 25 to 60% of the cases. This is the rarest form of transmission of Anthrax. Recent evidence indicates that anthrax targets the endothelial cells that line, the serous cavities such as the pericardium, the pleura, the peritoneal cavity, the lymphatic vessels and the blood vessels causing leakage of fluid and ultimately causes the hypovolemic shock and septic shock. Gastrointestinal anthrax is extremely rare in the United States. Only two cases have been reported. The first one was in 1942 and the second one in 2009. The CDC investigated the second case and found it related an African drum. She became critically ill with the spores hidden in the drum but developed a gastrointestinal form of the disease. She was fully treated and recovered.

A new form of anthrax has been identified in “heroin-injecting-drug-users” in Northern Europe but has not yet been reported in the United States. Symptoms may take days to months prior to surface in an itchy small blister or a bump at the injection site with local inflammation. Fever and chills will accompany the swelling around the sores. A deep abscess may be encountered under the skin or the muscle. Later, a painless skin sore with a black center may appear once the blister dry out. In 2009, such outbreak of the disease was seen among some heroin addicts in the Glasgow and Stirling areas of Scotland, killing 14. The source of the anthrax is believed to be the dilution of the heroin with bone meal from Afghanistan.

The diagnosis is made through the history; One has to take in consideration the type of occupation the victim practices. Smears for Gram stains and cultures may allow the recognition of the bacteria in the skin lesions, throat swabs and sputum may do the same in pulmonary anthrax. As we know already, the bacillus anthracis is a rod-shaped, Gram positive anaerobic, discovered by Robert Koch in 1876, when he took a blood sample from an infected cow. The bacterium normally rest under the form of a spore, in the soil and can survive for decades. Animal grazing can become infected. Once ingested or placed in an open wound, the bacteria begin multiplying inside the host and can kill it in a matter of days or weeks. The spores germinate at the site of entry into the tissues and spread to the circulation via the lymphatics where they multiply. The production of three powerful exotoxins by the bacteria, causes death. Most anthrax bacteria inside the body after death are outcompeted and destroyed by anaerobic bacteria within minutes to hours post mortem. However, anthrax vegetative bacteria that escape the body via oozing blood may form hardy spores as well but they are not contagious but hard to eradicate. Chest X-Rays may show characteristic changes in the lungs or mediastinum. One can also look for excessive fluid or edema in the parenchyma. In disseminated forms, blood cultures will reveal the bacteria responsible for the disease. Anthrax is a mandatory reportable disease. Local and state health agencies must be notified once diagnosed.

Longtime ago, all cases of anthrax would be kept in isolation or in quarantine but since Anthrax does not spread really from an infected human being to another generally, that practice has ceased. Early treatment in the disease, brings cure. Tetracycline, Erythromycin, Ciprofloxacin have all been successful in treating the cutaneous form of the disease. Continuous intravenous antibiotic therapy is lifesaving in the pulmonary form of anthrax. This becomes a medical emergency. A vaccine which has not been available to the public, exist already. This vaccine can be given to personnel employees or other victims who have been exposed to a bioterrorist attack. Four antibiotics have been recommended in individual exposed to aerosolized spores during any bioterrorism attacks: Doxycycline, Ciprofloxacin, Levofloxacin and parenteral procaine penicillin G coupled with a three dose series of anthrax vaccine. If a deceased person is suspected having died from anthrax, precautions should be taken to avoid skin contact with the contaminated body and fluids. The body should be placed in quarantine and blood samples should be collected to ascertain the cause of death and sealed in a container. The body should be incinerated.

The NIH approved a high efficiency respirator and disposable personal protective equipment, rubber gloves, rubber boots to handle such bodies. Preventive antibiotics have been suggested for individuals who have been

exposed, as soon as possible. Two months of antibiotics such as Cipro or Doxycycline after exposure can also prevent infection or treat infection with possibly antitoxin. Even if anthrax does not spread directly from person to person, the person's clothing or the body can be contaminated with anthrax spores. The use of antimicrobial soaps and water will allow a washout and the decontamination the clotting by boiling in water for at least 30 minutes. Formaldehyde and clothes burning are also effective in destroying the spores.

Vaccine against anthrax for use in livestock and in humans is well known in the history of medicine. Louis Pasteur, French scientist developed the first effective vaccine in 1881. The human anthrax vaccine comes from the Soviet Union in the late 1930's. Later in the US and UK, in the 1950's. The vaccine was approved by the FDA in 1960's. These vaccines are different. A live vaccine (Russia) and an acellular vaccine (USA) are both used but present considerable local and systemic reactions like erythema, induration, soreness, fever. In the past, they were administered in 5 doses or in 6 doses with an annual booster but they failed to be effective. A New generation of vaccines is present on the market: Recombinant live vaccines and Recombinant subunit vaccines which have been used routinely to immunize military personnel in the United States and the United Kingdom. There are no public healthcare measures that can be taken to prevent contact with infected animals. The vaccine is also available especially for the one at risk like the veterinarians, laboratory technicians, employees working with goat hairs in the textile industry. Present vaccines have great efficacy and few side effects may develop once given in deep injection to fat or muscle. Finally, an early experimental oral vaccine used on animals, has shown promise. Days are not far when we will be able to use a pill for prevention.

The prognosis depends on the type of Anthrax infection, you are dealing with and the rapid response to an adequate treatment. Anthrax has become a rare disease in the United States and the developed countries but remained an endemic disease in all underdeveloped countries especially when they are lacking public health regulations. May I conclude that we have exposed the way Anthrax infects humans and animals: The most common manifestation of the disease is by the cutaneous route and the deadliest form is by inhalation of the spores. The intestinal form remains a rare but serious form of the disease while we are still learning from the "injectable form" discovered in heroin drug addicts. Be vigilant when you are visiting livestock while travelling.

Maxime Coles MD

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Dear AMHE Members, Family, and Friends,

The news coming out of the Bahamas is getting worse by the minute.

As hurricane Dorian reared its ugly head in the Caribbean Sea, Abaco and Grand Bahama suffered the brunt of the storm. Unfortunately, the 14,000 Haitians living in those islands saw their already precarious lives and their hope for better days vanish before their eyes.

We **MUST ACT QUICKLY** to bring relief to our Haitian brothers and sisters.

AMHE wasted no time in the aftermath of this tragedy. We have been working relentlessly to deliver relief to those left reeling, but we can do much more with your support. We need you to empower our ability to serve those in dire need now.

At this time, AMHE leaders have already contributed nearly 15,000.00 and have already sent first aid items to this cause. We need to raise \$50,000.00 within the next two weeks. Please join us in this endeavor.

Donate now to the AMHE Dorian Fund at [amhe.org](http://amhe.org).

Fraternally yours,

Joseph Pierre-Paul Cadet, MD  
AMHE President

46th AMHE Scientific Convention

Dear Speaker,

The scientific commission wants to congratulate you for sending us very promptly the information requested by the Continuing Medical Education Committee.

We will travel to the island of Cuba on the 20th of July 2019 and the conference commences on the 24 of July. Please find attached the Full Scientific Program in excel format. You may download it.

Your presentation might be ready by now. Please send us the PowerPoint file as early as this Sunday if you have not already done so.

We expect to have a marvelous convention with close to 400 participants.

Cordially  
Eric L Jerome, MD FASN FACP  
Director of Nephrology at KJMC, NY  
SUNY  
Program director

[2019 AMHE program July1](#)



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**Published on the AMHE Facebook page last two weeks**

**Articles parus sur la page Facebook de l'AMHE durant la dernière semaine**

An after convention reportage on Cuba and the scenes to be photographed. MC - Les enfants de la AMHE -  
 Quelle desolation pour Bahamas et ses habitants - It takes courage to be on the front line helping. MC - Skin  
 Infections: What You Should Know - Georges Angus MD, Chief of Trauma at Nassau County Hospital with  
 Georges Day. MC - Why Are My Joints So Stiff? What Can I Do? - Slideshow: A Visual Guide to  
 Understanding Pancreatic Cancer - Bahamas-Interview with Father Junior Calixte -  
 12 Reasons to Love the Mediterranean Diet

**It has been nice purchasing together materials to fill up some 30 boxes for our brothers and sisters suffering in Abaco and Grand Bahamas, following the passage of Hurricane Dorian.**

**And more...**

## *Upcoming Events*

85th Year

**October 5<sup>th</sup>, 2019**

Please come celebrate with us  
 the 85<sup>th</sup> Birthday of  
 Bishop Guy Sansaricq

Address : Ste Teresa of Avila Parish  
 563 Sterling Place Brooklyn NY 11213

**Time: 7:00 PM to 11:00 PM**

For info please call:  
 631- 889-0664 or 718-856-3323

**\$100,<sup>00</sup>**