

The Medical World of Lewis and Clark

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Living in the world during the era of Lewis and Clark was a vastly different experience in many ways, then the society of the modern world. Daily life was difficult for many rural Americans, with their days being spent gathering and preparing food and protecting themselves from a frequently harsh environment. City-dwellers had things a bit easier, but both groups faced the threats of disease with little help from the medical profession. . Life expectancy was not much more than 3 decades.

Medical practice during the time of Lewis and Clark was a fascinating mixture of philosophical doctrine and early science. Basic medical sciences were in their infancy and an understanding of the physical/biological worlds was simply not available to medical practitioners. Isolated scientific discoveries, frequently led to changes in medical philosophy but in many ways, in spite of the dawning of the agnient systems, with therapies intended to rid the body of morbific (disease producing matter) by bleeding, purging, sweating, blistering and vomiting, among others. Scientists were making remarkable progress, but the practice of medicine for the most part, was stuck in the past.

Only about 10% of the physicians practicing in the United States at the time of the expedition, had any formal medical training. Qualifications for a physician in that time were basically a desire to be an apprentice and the ability to find a practicing physician who agreed to train the novice. There were only a hand full of medical colleges in the U.S. and the vast majority of American physicians were trained as apprentices; usually serving about a five year course of study with their preceptor. A lucky few traveled to Europe and studied in the hallowed halls of European medical schools. Such was the case with one of America's leading physicians and the medical advisor to Meriwether Lewis. This famed American physician was Benjamin Rush.

Theories of disease that were popular during the Lewis and Clark era, centered around the theory that disease was caused by the nervous system supplying either an excess or deficiency in "nervous excitation" Rush developed his theories that the nervous system interacted with the circulatory system, producing a "spasm" within the blood vessels, Rush believed that disease was preceded by a state of "debility" (weakness) that could be produced by such phenomena as "violent passions", and cold air. This debility would lead to the body reacting by overstimulation, manifested in the circulatory system, and particularly in the

arteries with “hypertension”, leading to “inflammation” and disease. His treatment for these problems??. . . Remove some of the substance responsible for the inflammation. What was this offending and inflammatory substance?
BLOOD!

Diagnosis of disease at this time was a combination of feeling the patient’s pulse (both rate and strength) feeling the skin for signs of fever, determining the state of the bowels (any constipation?), state of the appetite, and then prescribing a treatment plan for the problem. Invariably, the treatment was some combination of fresh air, diet, purging, bloodletting, blistering and some medication, often herbal in nature, or some chemical substance that could accomplish the physician’s goal.

A few herbal medications popular during that time were helpful. Lewis’s mother Lucy, was an accomplished herbal doctor in Virginia and probably taught the young Lewis a good deal about “the simples”. Thousands of plants have physiologically active chemical compounds. Some can heal; others can kill. Many early American physicians experimented with and actively searched for new herbal medications.

It was a staggering challenge for Lewis and Clark to act as the physicians for the expedition. Their basic medical training as U.S. Army officers, included practical knowledge of basic treatment of gunshot wounds, reducing dislocated joints, the establishment and planning the layout of the company’s camp. Separation of the latrine facilities from the main camp was known to be a necessity.

A Few of the Medical Problems Facing Lewis and Clark

It is fascinating to look at a few of the medical problems faced by the Lewis and Clark Expedition, and take our advantage of 21st century people to aid our understanding. One of the major problems during that era was that of Smallpox.

Smallpox was a tremendous problem in colonial America and during the time of Lewis and Clark. It killed thousands of humans in recurrent epidemics during this era. Lacking any natural immunity to this viral disease, numerous Indian tribes along the Missouri River had been ravaged by recurrent epidemics during the late 1700’s. One Arikara village of around 25,000 was reduced by 75% in an epidemic of 1780-81 and again by another during the years of 1803-1804.

The early 1800’s was also an exciting time in the field of medicine with the advent of a miracle treatment known as “vaccination”, developed and introduced to the world by the English physician/scientist, Dr. Edward Jenner in 1798. This process used fluid from the blister of a victim of a relatively mild disease known as “cowpox”. This fluid was introduced into the patient via a small wound produced

on the arm. Within a little over a week, the recipient would develop mild fever and recover quickly. Amazingly, this person was protected from the severe form of the disease. . . . the dreaded Smallpox. The knowledge of this process made its way to America in the early 1800's, and shortly thereafter, Thomas Jefferson became aware of its benefits.

It was the desire of Thomas Jefferson to protect the “noble savages” along the Missouri River with the vaccination against smallpox. It was Jefferson’s hope that the Lewis and Clark Expedition would become, at least in part, a floating medical clinic as it traveled up the Missouri River. Jefferson instructed Lewis to take along some of the “kinepox” (cowpox fluid) material and vaccinate the Indian nations against the deadly disease. Sadly, by the time Captain Lewis administered the kinepox, it had lost its potency and failed to produce any type of immune response from the patient and a tremendous public health benefit was lost to the native peoples.

The journey of Lewis and Clark across the North American continent is a great collection of wilderness medical problems. They encountered frost bite, snow blindness, hail storms, gastrointestinal disease from the water and foods they ate, syphilis from encounters with the native women, grizzly bear attacks, rattlesnake bite, near starvation, poorly balanced diets, extreme fatigue, probable tick-borne illnesses, skin and respiratory infections, dislocated joints, parasitic disease and numerous other maladies that threatened their progress and successful completion of their task.

They functioned as the physicians for their Corps. They were poorly trained, even by the standards of 1803. But they did the best they could with the training and materials they possessed. In the end, they brought all their men back home to St. Louis in 1806, except for Sgt. Charles Floyd who had died in August of 1804. A remarkable feat of great luck, and as the Captains put it, “the hand of providence.”

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