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Article Summary: This article includes materials that President Jefferson had asked Dr. Benjamin Rush to prepare for Meriwether Lewis: questions relating to the medical practices and remedies used by the Indians Lewis might encounter and directions for preserving his own health and the health of his party. Entries from Lewis and Clark's journals commenting on medical issues and lists of the medicines Lewis requested and those stocked by the expedition appear at the end of the article.

### Cataloging Information:

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Photographs / Images: 1804 Lewis and Clark council with Oto and Missouri Indians near present-day Fort Calhoun (Patrick Gass sketch), Indian chiefs of tribes in eastern Nebraska (Carl Bodmer sketch), Indian petroglyphs, President Jefferson Peace Medal distributed among the Indians by the Lewis and Clark Expedition



*On August 3, 1804, Lewis and Clark held a council with Oto and Missouri Indians near present-day Fort Calhoun. Sergeant Patrick Gass, who accompanied the expedition, drew this sketch of the meeting.*

# Medical Aspects of the Lewis and Clark Expedition

*Edited by* DONALD D. SNODDY

IN 1802, President Thomas Jefferson wrote to Dr. Benjamin Rush, a well-known physician from Philadelphia, asking him to prepare some questions that might serve as guidelines for an exploration of the Missouri River and the river that would lead from the Missouri's source westward to the Pacific.

It was in Philadelphia that Meriwether Lewis, the man Jefferson had chosen to lead the expedition to the Pacific, was to obtain his supplies and meet Dr. Rush. When Lewis conferred with Dr. Rush, he was given a copy of "Questions" relating to medical practices and remedies used by Indians Lewis might encounter on his journey. He was also given a copy of "Directions" for preserving his health and the health of the party. Here are the "Questions" and "Directions" relating to the medical aspects of the journey:

## QUESTIONS

1. What are the acute diseases of the Indians? Is the billious fever attended by a black vomit?
2. Is apoplexy, palsy, epilepsy, madness, rheum(atic) disease, goitre known among them?
3. What is the state of life as to longevity? At what age do the women *begin* and cease to menstruate?

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4. At what age do they marry? How long do they suckle the children? What is the provision of their children after being weaned?

5. The rate of pulse as to frequency in the morning, at noon, and at night before and after eating?

6. What is its state in childhood, adult life, and old age? Is it ever subject to intermission? The number of strokes counted by the quarter of a minute glass, and multiplied by four will give its frequency in a minute.

7. What are their remedies?

8. Are artificial discharges of blood ever used among them?

9. In what manner do they induce sweating? Do they ever use voluntary fasting? At what time do they use their baths?

10. What is the diet, manner of cooking, and times of eating among the Indians? How do they preserve their food?<sup>1</sup>

#### DIRECTIONS

1. When you feel the least indisposition, do not attempt to overcome it by labour or marching. Rest in a horizontal posture — also fasting and diluting drinks for a day or two will generally prevent an attack of fever. To these preventatives of disease may be added a gentle sweat obtained by warm drinks, or gently opening the bowels by means of one, two, or more of the purging pills.

2. Unusual costiveness is often a sign of approaching disease. When you feel it take one or more of the purging pills.

3. Want of appetite is likewise a sign of approaching indisposition, it should be obviated by the same remedy.

4. In difficult & laborious enterprises & marches, eating sparingly will enable you to bear them with less fatigue & less danger to your health.

5. Flannel should be worn constantly next to the skin, especially in wet weather.

6. The less spirit you use the better. After being wetted or much fatigued, or long exposed to the night air, it should be taken in an

undiluted state. 3 tablespoonfuls taken in this way will be more useful in preventing sickness, than half a pint mixed with water.

7. Molasses or sugar & water with a few drops of the acid of vitriol will make a pleasant & wholesome drink with your meals.

8. After having had your feet much chilled, it will be useful to wash them with a little spirit.

9. Washing the feet every morning in *cold* water, will conduce very much to fortify them against the action of cold.

10. After long marches, or much fatigue from any cause, you will be more refreshed by lying down in a horizontal posture for two hours, than by resting a much longer time in any other position of the body.

11. Shoes made without heels, by affording equal action to all the muscles of the legs, will enable you to march with less fatigue than shoes made in the ordinary way.<sup>2</sup>

In addition to the "Questions" and "Directions," Rush also prepared his famous bilious pills, more commonly known as "ten and ten." Rush originally made the pill to consist of ten grains of calomel and ten grains of jalap but later altered the mixture to twenty grains of jalap, which would carry the calomel through the bowels. It was this latter mixture that Lewis and Clark carried with them in the form of fifty dozen "Bilious Pills to Order of Dr. B. Rush."

Lewis gathered all his supplies and men at Philadelphia, and hauled them by wagon to Pittsburgh on the Ohio River, where on August 30, 1803, they continued by boat toward the Louisiana Purchase. When the expedition reached Louisville it was joined by William Clark, who was to be the field captain. The group now consisted of Captains Lewis and Clark; nine men from Kentucky; fourteen volunteers from the U.S. Army; two French watermen, an interpreter and a hunter; and York, Captain Clark's black servant, who was a constant source of amazement to the Indians. There was no doctor.

From Louisville the party floated on down the Ohio to its confluence with the Mississippi River, then up the Mississippi to Kaskaskia, where a contingent led by Lewis left overland for St. Louis. Clark and the rest of the expedition continued by water to the Wood River, a few miles above St. Louis, where they established their winter camp. The winter quarters

and training period would last from December 12, 1803, until May 14, 1804.

The success of the expedition depended in a large part upon the health of the men and the good will of the Indians. Both goals were reached to a considerable degree by the medical practices directed and administered by Lewis and Clark. Following is a compilation of all references from the journals relating to sickness, accident, and medical practice. Unless otherwise noted they are from the Thwaites edition of the Journals.

### 1804

**July 4** — Came to refresh ourselves & Jos. Fields got bit by a Snake, which was quickly doctored with Bark by Capt. Lewis.<sup>3</sup>

**July 7** — . . . one man verry sick, Struck with the Sun Capt. Lewis bled him & gave him Nitre which revived him much.<sup>4</sup>

**July 20** — It is worthey of mention that our Party has been much healthier on the voyage than parties of the same number is in other Situation Tumers have been troublesom to them all.<sup>5</sup>

**Aug. 19** — Serjeant Floyd is taken verry bad all at once with a Bilicose Chorlick. we attempt to relieve him without success as yet, he gets worst and we are much allarmed at his Situation, all [give] attention to him.

**Aug. 20** — Sergeant Floyd much weaker and no better . . . Serjeant Floyd as bad as can be no pulse & nothing will stay a moment on his Stomach or bowels. Passed two Islands on the S.S. and at the first Bluff on the S.S. Serj. Floyd Died with a great deal of Composure, . . .<sup>6</sup>

**Aug. 22** — . . . by examination this (1) Bluff Contained Alum, Copperas, Cobalt, Pyrites; a Alum Rock Soft & Sand Stone. Capt. Lewis in proveing the quality of those minerals was Near poisoning himself by the fumes & taste of the *Cobalt* which had the appearance of Soft Isonglass. Capt. Lewis took a Dost of Salts to work off the effects of the arsenic, . . .

**Nov. 29** — Sergeant Pryor in takeing down the mast put his Sholder out of Place, we made four trials before we replaced it.<sup>7</sup>

1805

**Jan. 10** – about 10 o'clock the boy about 13 years of age Came to the fort with his feet frozed and had layed out last night without fire with only a Buffalow Robe to cover him, the Dress which he wore was a pr of Cabra [antelope] legins, which is verry thin and mockersons we had his feet put in cold water and they are Comeing too. Soon after the arrival of the Boy, a Man Came in who had also Stayed out without fire, and verry thinly Clothed, this man was not the least injured. Customs & the habits of those people has annured [them] to bare more Cold than I thought it possible for man to endure.<sup>8</sup>

**Jan. 20** – [Clark:] one of the Squars of Shabowner Squars being Sick, I ordered my Servent to give her Some froot Stewed and tee at dift times which was the cause of the missundstd.

**Jan. 21** – [Clark:] one ban [man] verry bad with the pox.

**Jan. 26** – [Clark:] one man taken violently Bad with the Plurisie, Bleed & apply those remedies Common to that disorder.

**Jan. 27** – [Clark:] I bleed the man with Plurisy to day & Swet him, Capt. Lewis took off the Toes of one foot of the Boy who got frost bit Some time ago . . .

**Jan. 28** – [Clark:] the man Sick yesterday is getting well Mr Jessome our interpiter was taken verry unwell this evening.

**Jan. 29** – [Clark:] Gave Jassome a Dost of Salts.

**Jan. 31** – [Lewis:] our interpeter something better, George Drewyer taken with the Pleurisy last evening Bled & gave Some Sage tea, this morning he is much better.

**Feb. 2** – [Lewis:] our interpeter Still unwell, one of the wives of the Big belley interpetr Sick.

**Feb. 11** – [Lewis:] about five Oclock this evening one of the wives of Charbono was delivered of a fine boy. it is worthy of remark that this was the first child which this woman had boarn, and as is common in such cases her labour was tedious and the pain violent; Mr. Jessome informed me that he had frequently administered a small portion of the rattle of the rattle-snake, which he assured me had never failed to produce the desired effect, that of

hastening birth of the child, having the rattle of a snake by me I gave it to him and he administered two rings of it to the woman broken in small pieces with the fingers and added to a small quantity of water. Whether this medicine was truly the cause or not I shall not undertake to determine, but I was informed that she had not taken it more than ten minutes before she brought forth perhaps this remedy may be worthy of future experiments, but I must confess that I want faith as to its efficacy.<sup>9</sup>

Feb. 15 — [Clark:] one chief of the Mandans returned from Capt Lewises Party nearly blind, this Complaint is as I am informed Common at this season of the year and caused by the reflection of the Sun on the ice & Snow, it is cured by "jently swetting the part affected, by throwing snow on a hot Stone."

Feb. 28 — a fine morning two men of the N W Compy arrive with letters and Sackacomah, also a Root and' top of a plant, presented by Mr. Haney, for the Cure of Mad Dogs Snakes &c. and to be found & used as follows viz: "this root is found on the high lands and ascent of hills, the way of using it is to scarify the part when bitten to chu or pound an inch or more if the root is Small, and applying it to the bitten part renewing it twice a Day. the bitten person is not to chau nor Swallow any of the Root for it might have contrary effect."

May 10 — [Lewis:] Boils and imposthumes [abscesses] have been very common with the party Bratton is now unable to work with one on his hand; soar eyes continues also to be common to all of us in a greater or less degree for the imposthume I use emollient poltice, and for soar eyes a solution of white vitriol and the sugar of lead in the proportion of 2 grs. of the former and one of the latter to each ounce of water.<sup>10</sup>

May 14 — we proceeded on verry well untill about 6 oclock a squawl of wind Struck our Sale broad side and turned the perogue nearly over, and in this Situation the Perogue remained until the Sale was cut down in which time she nearly filled with water; the articles which floated out was nearly all caught by the Squar who was in the rear. This accident had like to have cost us dearly; for in the perogue were embarked our papers, Instruments, books, medicine, a great proportion of our merchandise, . . .

May 16 — [Lewis:] the loss we sustained was not so great as we had at first apprehended; our medicine sustained the greatest injury,

several articles of which were intirely spoiled and many others considerably injured.

**June 9** — [Lewis:] I felt myself very unwell this morning and took a portion of salts from which I feel much relief this evening.<sup>11</sup>

**June 10** — [Lewis:] I still feel myself somewhat unwell with the disentary, but determined to set out in the morning up the South fork of the Missouri . . . Sah-cah-gah, we a, our Indian woman is very sick this evening; Capt. C bleed her.

**June 11** — [Lewis:] This morning I felt much better, but somewhat w[e]akened by my disorder . . . I determined to take dinner here, but before the meal was prepared I was taken with such violent pain in the intestens that I was unable to partake of the feast of marrow-bones. my pain still increased and towards evening was attended with a high fever; finding myself unable to march, I determined to prepare a camp of some willow boughs and remain all night. having brought no medicine with me I resolve to try an experiment with some simples; and the Choke cherry which grew abundantly in the bottom first struck my attention; I directed a passel of the small twigs to be geathered striped of their leaves, cut into pieces of about 2 Inches in length and boiled in water until a strong black decoction of an astringent bitter tast was produced; at sunset I took a point [pint] of this decoction and ab[o]ut an hour after repeated the d[o]ze by 10 in the evening I was entirely relieved from pain and in fact every symptom of the disorder forsook me; my fever abated, a gently perspiration was produced and I had a comfortable and refreshing nights rest.<sup>12</sup>

**June 11** — [Clark:] the Indian woman verry sick, I bleed her which appeared to be of great service to her, . . .

**June 12** — [Lewis:] This morning I felt myself quite revived, took another portion of my decoction and set out at sunrise.

**June 12** — [Clark:] The enterpreters wife verry *sick* so much so that I move her into the back part of our covered part of the Perogue which is cool, her own situation being a verry hot one in the bottom of the Perogue exposed to the Sun. . . . the Interpreters woman verry sick one man have a fellon riseing on his hand one other with the Tooth ake has taken cold in the Jaw &c.

**June 13** — [Clark:] the Indian woman verry sick I gave her a doste of salts. . . . one man sick & 3 with swellings the Indian woman verry sick

**June 14** — [Clark:] the Indian woman complaining all night & excessively bad this morning. her case is somewhat dangerous. two men with the Tooth ake 2 with Tumers, & one man with a Tumor & slight fever . . . three men with Tumers went on shore and stayed out all night.

**June 15** — [Clark:] our Indian woman sick & low spirited I gave her the bark & apply it exteranely to her region which revived her much, . . . the Indian woman much wors this evening, she will not take any medison, . . .

**June 16** — [Lewis:] about 2 P.M. I reached the camp found the Indian woman extreemly ill and much reduced by her indisposition. this gave me some concern as well for the poor object herself, then with a young child in her arms, as from the consideration of her being our only dependence for friendly negociation with the Snake Indians . . . one of the small canoes was left below this rappid in order to pass and repass the river for the purpose of hunting as well as to procure the water of the Sulpher spring, the virtures of which I now resolve two dozes of barks and opium which I had given her since my arrival had produced an alteration in her pulse for the better; they were now much fuller and more regular. I caused her to drink the mineral water altogether. W[h]en I first came down I found that her pulse were scarcely perceptible, very quick frequently irregular and attended with strong nervous symptoms, that of twitching of the fingers and leaders of the arm; now the pulse had become regular much fuller and a gentle perspiration had taken place; the nervous symptoms have also in a great measure abated, and she feels much freer from pain. she complains principally of the lower region of the abdomen, I therefore continued the cataplasms of barks and laudanum which have been previously used by my friend Capt. Clark. I believe her disorder originated principally from an obstruction of the mensis in consequence of taking could I dtermined to remain at this camp in order to make some celestial observations, restore the sick woman, . . .<sup>13</sup>

**June 16** — [Clark:] the Indian woman verry bad, & will take no medisin what ever, untill her husband finding her out of her sences, easily prevailed on her to take medison if she dies it will be the fault of her husband as I am now convinced.

**June 17** — [Lewis:] The Indian woman much better today; I have still continued the same course of medicine; she is free from pain

clear of fever, her pulse regular, and eats as heartily as I am willing to permit her of broiled buffaloe well seasoned with pepper and salt and rich soope of the same meat; I think therefore that there is every rational hope of her recovery.

**June 18** – [Lewis:] The Indian woman is recovering fast she set up the greater part of the day and walked out for the fi[r]st time since she arrived here; she eats hartily and is free from fever or pain. I continue same course of medecine and regimen except that I added one doze of 15 drops of the oil of vitriol today about noon.

**June 19** – [Lewis:] the Indian woman was much better this morning she walked out and gathered a considerable quantity of the white apples of which she eats so heartily in their raw state, together with a considerable quantity of dried fish without my knowledge that she complained very much and her fever again returned. I rebuked Sharbono severly for suffering her to indolge herself with such food he being privy to it and having been previously told what she must only eat. I now gave her broken dozes of diluted nitre untill it produced perspiration and at 10 P.M. 30 drops of laudanum which gave her a tolerable nights rest.

**June 20** – [Lewis:] The Indian woman is qu[i]te free from pain and fever this morning and appears to be in a fair way for recovering, she has been walking about and fishing.

**June 26** – [Lewis:] Whitehouse one of them much heated and fortieged on his arrivall d[r]ank a very hearty draught of water and was taken almost instantly extreemly ill. his pulse were full and I therefore bled him plentifully from which he felt great relief. I had no other instrument with which to perform this operation but my penknife, however it answered very well. *At the lower Camp.* Capt. C. gave Sergt. Pryor a doze of salts this morning . . .

**June 27** – [Lewis:] Whitehouse was not quite well this morning.

**July 11** – [Lewis:] this man [Bratton] has been unable to work for several days in consequence of a whitlow on one of his fingers; a complaint which has been very common among all the men.<sup>14</sup>

**July 12** – [Lewis:] Sgt. Pryor got his sholder dislocated yesterday, it was replaced immediately and is likely to do him but little injury; it is painfull to him today.

**July 26** — [Lewis:] (about Clark) the day being warm and the road unshaded by timber in the deep valley he suffered excessively with the heat and want of water, at length he arrived at a very cold spring, at which he took the precaution of wetting his feet head and hands before [he] drank but not withstanding this precaution he soon felt the effects of the water. he felt himself very unwell shortly after but continued his march rejoined Sharbono and Fields where the party eat of a fawn which Jo. Fields had killed in their absence Capt. C. was so unwell that he had no inclination to eat.

**July 27** — [Lewis:] at 3 P.M. Capt Clark arrived very sick with a high fever on him and much fatigued and exhausted. he informed me that he was very sick all last night had a high fever and frequent chills & constant aking pains in all his mustles . . . Capt C. thought himself somewhat bilious and had not had a passage for several days; I prevailed on him to take a doze of Rushes pills, which I have always found sovreign in such cases and to bath his feet in warm water and rest himself.

**July 27** — [Clark:] I continue to be verry unwell fever verry high, take 5 of rushes pills & bathe my feet & legs in hot water.

**July 28** — [Lewis:] My friend Capt. Clark was very sick all last night but feels himself somewhat better this morning since his medicine has operated.

**July 29** — [Lewis:] Capt. Clark is much better today, is perfectly clear of fever but still very languid and complains of a general soariness in all his limbs. I prevailed on him to take the barks which he has done and eate tolerably freely of our good venison.

**July 31** — [Lewis:] we have a lame crew just now, two with tumers or bad boils on various parts of them, one with a bad stone bruise, one with his arm accidentally dislocated but fortunately well replaced, and a fifth has streigned his back by slipping and falling backwards on the gunwall of the canoe. the latter is Sergt. Gass. it gives him great pain to work in the canoe in his present situation, but he thinks he can walk with convenience, . . .

**Aug. 24** — [Lewis:] I had reached the lower part of the cove when an Indian rode up and informed me that one of my men was very sick and unable to come on. I directed the party to hald at a small run which falls into the creek on Lard. at the lower part of the Cove and rode back about 2 Miles where I found Wiser very ill with a

fit of the cholic. I sent Sergt. Ordway who had remained with him for some water and gave him a doze of the essence of Peppermint and laudanum which in the course of half an hour so far recovered him that he was enabled to ride my horse and I proceeded on foot and rejoined the party.<sup>15</sup>

Aug. 26 – [Lewis:] One of the women who had been assisting in the transportation of the baggage halted at a little run about a mile behind us, and sent on two pack horses which she had been conducting by one of her female friends. I enquired of Cameahwait the cause of her detention, and was informed by him in an unconcerned manner that she had halted to bring fourth a child and would soon overtake us; in about an hour the woman arrived with her newborn babe and passed us on her way to the camp apparently as well as she ever was.

Sept. 19 – [Lewis:] several of the men are unwell of the disentary. barkings out, or irruptions of the Skin, have also been common with us for some time.

Sept. 20 – [Clark:] I find myself verry unwell all the evening from eateing the fish & roots too freely.

Sept. 23 – [Clark:] Captain Lewis & 2 men Verry Sick this evening, . . .

Sept. 24 – Several 8 or 9 men sick, Capt Lewis sick all Complain of a *Lax* & heaviness at the stomach, I gave rushes Pills to several

Sept. 24 – [Clark:] Capt. Lewis scercely able to ride on a jentle horse which was furnished by the Chief, Several men So unwell that they were Compelled to lie on the Side of the road for Some time others obliged to be put on horses. I gave rushes Pills to the Sick this evening.

Sept. 25 – Most of the Party Complaining and 2 of our hunters left here on the 22nd Verry sick, when I arrived at Camp I found Capt. Lewis very Sick, Several men also verry Sick, I gave some Salts & Tarter *emetic*, . . .

Sept. 26 – Capt Lewis Still very unwell, Several men taken Sick on the way down, I administered *Salts Pils Galip*, [jalap] Tarter *emetic* &c. I feel unwell this evening.

Sept. 27 – Several taken Sick at work, our hunters returned Sick without meet. [*Capt Lewis very sick nearly all the men sick.*]



*Indian chiefs of tribes in eastern Nebraska were sketched by Carl Bodmer, an artist with the Maximilian Expedition in 1833. From left are Missouri, Oto, and Ponca chiefs.*

Sept. 28 – Our men nearly all Complaining of their bowels, a heaviness at the Stomach & Lax, Some of those taken first getting better, . . .

Sept. 29 – men Sick as usual, . . .

Oct. 2 – We have nothing to eat but roots, which give the men violent pains in their bowels after eating much of them.<sup>16</sup>

Oct. 5 – Capt Lewis & myself eate a Supper of roots boiled, which Swelled us in Such a manner that we were Scercely able to breath for Several hours.

Oct. 10 – Their disorders are but fiew and those fiew of a s[c]rofulous nature. they make great use of Swetting. The hot and cold bathes, . . .

Oct. 17 – Those people as also those of the *flat heads* which we has passed on the Koskoske and Lewis's rivers are subject to sore eyes, and many are blind of one and Some of both eyes, this misfortune must be owing to the reflection of the sun &c. on the waters in which they are continually fishing during the Spring Summer & fall, & the snows dureing the winter Seasons, in this open countrey where the eye has no rest. I have observed amongst those, as well in all other tribes which I have passed on these waters who live on fish of many different sectes who have lost their teeth about middle age, Som have their teeth worn to the gums, perticerlar[ly] those of the upper jaw, and the tribes generally have bad teeth the cause of it I cannot account [for], sand attachd to the roots & the method they have of using the dried Salmon, which is nearly worming [warming] it and eating the rine & scales with the flesh of the fish, no doubt contributes to it.<sup>17</sup>

Dec. 2 – [Clark first draft] I am verry unwell the dried fish which is my only diet does not agree with me and several of the men complain of a lax, and weakness. Joseph Fields comes home with the marrow bones of an Elk which he had killed 6 miles distant, . . .

Dec. 3 – [Clark first draft] I am unwell and cannot eate, the flesh O! how disagreeable my situation, a plenty of meat and incap[ab]le of eateing any.

Dec. 4 – [Clark:] my apetite has returned and I feel much better of my late complaint.

1806

**Jan. 21** — The little intercourse which the men have had with these women is, however, sufficient to apprise us of the presence of the venereal disease with which one or two of the party had been so much afflicted, as to render salivation necessary. The infection in these cases was communicated by the Chinook women. The others do not appear to be afflicted with it to any extent; indeed, notwithstanding this disorder is certainly known to the Indians on the Columbia, yet the number of infected persons is very inconsiderable. The existence of such is very easily detected, particularly in the men, in their open style of dress; yet, in the whole route down the Columbia, we have not seen more than two or three cases of gonorrhoea, and about double that number of lues venerea. There does not seem to be any simples which are used as specifics in this disorder, nor is any complete cure ever effected. When once a patient is seized, the disorder ends with his life only; though from the simplicity of their diet, and the use of certain vegetables, they support it for many years with but little inconvenience, and even enjoy tolerable health; yet their life is always abridged by decrepitude or premature old age. The Indians who are most successful in treating this disorder are the Chippeways. . . . Their specifics are the root of the lobelia, and that of a species of sumac, . . . which is distinguished by being the smallest of its kinds, and by its winged rib or common footstalk, supporting leaves oppositely pinnate. Docooctions of the root are used freely, without any limitation, and are said to soften the violence of the lues and even to be sovreign in the cure of gonorrhoea.<sup>18</sup>

**Feb. 10** — [Lewis:] Willard arrived late in the evening from the Salt works, had cut his knee verry badly with his tommahawk, . . . he informed us that Bratton was very unwell, and that Gibson was so sick that he could not set up or walk alone and had desired him to ask to have him brought to the Fort.<sup>19</sup>

**Feb. 11** — [Lewis:] sent Sergt. Pryor with a party of four men to bring Gibson to the fort. . . . as Bratton had been sick we desired him to return to the Fort also if he thought proper.

**Feb. 14** -- [Lewis:] We are very uneasy with rispect to our sick men at the salt works. Sergt. Pryor and party have not yet returned nor can we conceive what causes their delay.

Feb. 15 — [Lewis:] about 3 P.M. Bratton arrived from the salt works and informed us that Sergt Pryor and party were on their way with Gibson who is so much reduced that he cannot stand alone and that they are obliged to carry him in a littler. Bratton himself appears much reduced with his late indisposition but is now recovering fast. . . . after dark Sergt. Pryor arrived with Gibson. We are much pleased in finding him by no means as ill as we had expected. we do no[t] conceive him in danger by any means, tho, he has yet a fever and is much reduced. we believe his disorder to have originated in a violent cold which he contracted in hunting and pursuing Elk and other game through the swam[p]s and marshes about the salt works. He is nearly free from pain tho' a good deal reduced and very languid. we gave him broken dozes of diluted nitre and made him drink plentifully of sage tea, had his feet bathed in warm water and at 9 P.M. gave him 35 drops of laudanum.

Feb. 16 — [Lewis:] Bratton is still very weak and complains of a pain in the lower part of the back when he moves which I suppose proceeds from disability. I gave him barks. Gibson's fever still continues obstinate tho' not very high; I gave him a doze of Dr. Rush's which in many instances I have found extremely efficacious in fevers which are in any measure caused by the presence of boil. the nitre has produced a profuse perspiration this evening and the pills operated late at night his fever after which abated almost entirely and he had a good night's rest.

Feb. 17 — [Lewis:] continue the barks with Bratton, and commenced them with Gibson his fever being sufficiently low this morning to permit the uce of them. I think therefore that there is no further danger of his recovery.

Feb. 19 — [Clark:] I gave Bratten 6 of Scott's pills which did not work him. he is very weak and complains of his back.

Feb. 20 — [Lewis:] Gibson is on the recovery fast; Bratton has an obstinate cough and pain in his back and still appears to be getting weaker. McNeal from his inattention to his disorder has become worse.

Feb. 20 — [Clark:] Willard has a high fever and complains of the pain in his head and want of appetite.

Feb. 21 — [Lewis:] gave Willard and bratton each a doze of Scotts pills; on the former they operated and on the latter they did

not. Gibson still continues the barks three times a day and is on the recovery fast.

**Feb. 22** – [Lewis:] our sick consisting of Gibson, Bratton, Sergt Ordway, Willard and McNeal are all on the recovery. we have not had as many sick at any one time since we left Wood River. the general complaint seems to be bad colds and fevers, something I believe of the influenza.

**Feb. 23** – [Lewis:] our sick are all on the recovery, except Sergt. Ordway who is but a little wo[r]se and not very ill tho' moreso than any of the others.

**Feb. 25** – [Lewis:] Willard still continues very unwell the other sick men have nearly recovered. Gutridge and McNeal who have the pox are recovering fast, the former nearly well.

**Mar. 2** – [Lewis:] The diet of the sick is so inferior that they recover their strength but slowly. none of them are now sick but all in a state of convalessence with keen appetites and nothing to eat except lean Elk meat.

**Mar. 3** – [Lewis:] our convalessents are slowly on the recovery. Lapage is taken sick, gave him a doze of Scots pills which did not operate.

**Mar. 6** – [Lewis:] Hall had his foot and ankle much injured yesterday by the fall of a large stick of timber; the bones were fortunately not broken and I expect he will be abel to walk again shortly. Bratton now weaker than any of the convalessents, all of whom recover slowly in consequence of the want of proper diet, which we have it not in our power to procure.

**Mar. 7** – [Lewis:] Bratton is much wo[r]se today, he complains of a violent pain in the small of his back and is unable in consequence to set up. we gave him one of our flannel shirts, applying a bandage of flannel to the part and bathed and rubed it well with some volatile linniment which I prepared with spirits of wine, camphor, castile soap and a little laudanum. he felt himself better in the evening.

**Mar. 7** – [Clark:] (Bratton) felt himself better in the evening at which time I repeated the linniment and bathed his feet, to restore circulation which he complained of in that part.

Mar. 8 — [Lewis:] Bratton is much better today, his back gives him but little pain, . . .

Mar. 9 — [Lewis:] Bratton complains of his back being very painful to him today; I conceive this pain to be something of the rheumatism. we still apply the linniment and flannel, in the evening he was much better.

Mar. 15 — [Lewis:] we were visited this afternoon by Delashshelwit a Chinook Chief his wife and six women of his nation which . . . his wife had brought for market . . . this was the same party that had communicated the venereal to so many of our party in November last, and of which they have finally recovered . . . Bratton still sick.

Mar. 18 — [Lewis:] Drewyer was taken last night with a violent pain in his side. Capt Clark bled him. several of the men are complaining of being unwell. it is truly unfortunate that they should be sick at the moment of our departure.

Mar. 20 — [Lewis:] many of our men are still complaining of being unwell; Willard and Bratton remain weak, principally I believe for the want of proper food. I expect when we get underway we shall be much more healthy. it has always had that effect on us heretofore.

Mar. 21 — [Lewis:] our sick men Willard and bratton do not seem to recover, the former was taken with a violent pain in his leg and thye last night. Bratton is now so much reduced that I am somewhat uneasy with respect to his recovery; the pain of which he complains most seems to be seated in the small of his back and remains obstinate. I believe that it is rheumatism with which they are both afflicted.

Mar. 24 — [Clark:] Willard and Bratten who are yet in a weak state.

Mar. 29 — [Clark:] Willard quit[e] well & Bratten much stronger.

Apr. 28 — [Lewis:] (Wallahwallahs) we conversed with them for several hours and fully satisfied all their enquiries with respect to ourselves and the objects of our pursuit. they were much pleased. they brought several diseased persons to us for whom they requested some medical aid. one had his knee contracted by the

rheumatism, another with a broken arm &c. to all of which we administered much to the gratification of those poor wretches. we gave them some eye water which I believe will render them more essential service than any other article in the medical way which we had it in our power to bestow on them. sore eyes seem to be a universal complaint among these people; I have no doubt but the fine sand of these plains and ever contribute much to this disorder. ulcers and eruptions of the skin on various parts of the body are also common diseases among them.

Apr. 28 — [Clark:] the man who had his arm broken had it loosely bound in a piece of leather without any thing to support it. I dressed the arm which was broken short above the wrist & supported it with broad sticks to keep it in place, put [it] in a sling and furnished him with some lint bandages &c to Dress it in future.

Apr. 29 — [Clark:] Several applied to me to day for medical aide, one a broken arm another inward fevers and several with pains across their loins, and sore eyes. I administered as well as I could to all. in the evening a man brought his wife and a horse both to me. the horse he gave me as a present and his wife who was very unwell the effects of violent colds was placed before me. I do not think her case a bad one and gave such medicines as would keep the body open and draped her in flannel. left some simple medicine to be taken. we also gave some Eye water 1 G[rain] of Ela v V. & 2 grs. of Sacchm Stry to an ounce of water and in that perportion.<sup>20</sup>

May 5 — [Lewis:] at the second lodge we passed an indian man [who] gave Capt. C. a very elegant grey mare for which he requested a phial of eyewater which was accordingly given him. while we were encamped last fall at the entrance of the Chopunnish river Capt. C. (*with much seremony washed & rubd.*) gave an indian man some volatile linniment to rub his k[n]ee and thye for a pain of which he complained (*and was well, but had not walked for many months*), the fellow soon after recovered and has never ceased to extol the virtues of our medicines and the skill of my friend Capt C. as a phisician. this occurrence added to the benefit which many of them experienced from the eyewater we gave them about the same time has given them an exalted opinion of our medicine. my friend Capt. C. is their favorite phisician and has already received many applications. in our present situation I think it pardonable to continue this desepction for they will not give us any provisions

without compensation in merchandise and our stock is now reduced to a mere handful. We take care to give them no article which can possibly injure them . . .

[At a Chopunnish village near Colter's Creek] we had several applications to assist their sick which we refused unless they would let us have some dogs or horses to eat. a man [chief] whose wife had an abscess formed on the small of her back promised a horse in the morning provided we would administer to her accordingly Capt C opened the abscess introduced a tent and dressed it with basilicon; (*Capt C soon had more than 50 applications.*) I prepared some dozes of the flour of sulpher and creem of tartar which were given with directions to be taken on each morning. a little girl and sundry other patients were offered for cure but we postponed our operations untill morning, . . .

May 5 – [Clark:] near the entrance of the Kooskooskee, as we decended last fall I met with a man, who could not walk with a tumure on his thye, this had been very bad and recovering fast. I gave this man a jentle pirge cleened & dressed his sore and left him some casteel soap to wash the sore which soon got well. this man also assigned the restoration of his leg to me.

I examined the abscess and found it was too far advanced to be cured. I told them her case was desperate, agreeably to their request I opened the abscess I then introduced a tent and dressed it with bisilicon, . . .

May 6 – [Lewis:] we received a second horse for medicine and prescription for a little girl with the rheumatism Capt. C dressed the woman again this morning who declared that she has rested better last night than she had since she had been sick. sore eyes is an universal complaint with all the natives we have seen on the west side of the Rocky mountains. Capt C was busily engaged for several hours this morning in administering eye-water to a crowd of applicants.

May 6 – [Clark:] we received a second horse for medecin & pro[s]cription to a little girl with the rheumatism whome I had bathed in worm water, and anointed her a little with balsom capiva.

May 11 – [Lewis:] many of the natives apply to us for medical aid which we gave them cheerfully so far as our skill and store of medicine would enable us. schrofela, ulsers, rheumatism, soar eyes,

and the loss of the use of their limbs are the most common cases among them. the latter case is not very common but we have seen th[r]ee instances of it among the Chopunnish. it is a very extraordinary complaint. A Chief of considerable note at this place has been afflicted with it for three years, he is incapable of moving a single limb but lies like a corpse in whatever position he is placed, yet he eats heartily, digests his food perfectly, enjoys his understanding, his pulse are good, and has retained his flesh almost perfectly, in short were it not that he appeared a little pale from having lain so long in the shade he might well be taken for a man in good health. I suspect that their confinement to a diet of roots may give rise to all those disorders except the rheumatism & soar eyes, and to the latter of these the state of debility incident to a vegetable diet may measureably contribute. The Chopunnish notwithstanding they live in the crowded manner before mentioned are much more cleanly in their persons and habitations than any nation we have seen since we left the Ottoes on the river Platte.<sup>21</sup>

May 12 – [Clark:] after brackfast I began to administer eye water and in a few minutes had nearly 40 applicants with sore eyes, and maney others with other complaints most common Rhumatic disorders & weakness in the back and loins perticularly the womin. I was closely employed untill 2 P.M. administering eye water to about 40 grown persons some simple cooling medicines to the disabled Chief, to several women with rhumatic effections & a man who had a swelled hip &c.

May 15 – [Lewis:] Frazier, J. Fields and Wiser complain of violent pains in their heads, and Howard and York are afflicted with the cholic. I attributed these complaints to their diet of roots (to) which they have not been accustomed.

May 16 – [Lewis:] Sahcargarweah geathered a quantity of the roots of a speeics of fennel which we found very agreeable food, the flavour of this root is not unlike annis seed, and they dispell the wind which the roots called Cows and quawmash are apt to create particularly the latter. we also boil a small onion which we find in great abundance, with other roots and find them also an antidote to the effects of the others. the mush of roots we find adds much to the comfort of our diet.

May 18 – [Lewis:] at 3 P.M. J. Fields returned very unwell having killed nothing. shortly after an old man and woman arrived;

the former had soar eyes and the latter complained of a lax and rheumatic effections. we gave the woman some creem of tartar and flour of sulpher.

May 19 — [Lewis:] at 11 A.M. Thompson returned from the village accompanied by a train of invalids consisting of 4 men and 8 women and a child. The men had soar eyes and the women in addition to soar eyes had a variety of other complaints principally rheumatic; a weakness and pain in the loins is a common complaint with their women. eyewater was administered to all, to two of the women cathartics were given, to a third who appeared much dejected and who from their account of her disease we supposed it to be hysterical, we gave 30 drops of Laudanum. the several parts of the others where the rheumatic pains were seated were all rubbed with volitile linniment. all of those poor wretches thought themselves much benefited, and all returned to their village well satisfied.

May 22 — [Lewis:] Charbono's Child is very ill this evening; he is cutting teeth, and for several days past has had a violent lax, which having suddonly stoped he was attacked with a high fever and his neck and throat are much swollen this evening. we gave him a doze of creem of tartar and flour of sulpher and applyed a poltice of boiled onions to his neck as warm as he could well bear.

May 23 — [Lewis:] the creem of tarter and sulpher operated several times on the child in the course of the last night, he is considerably better this morning, tho' the swelling of the neck has abated but little; we still apply pol[t]ices of onions which we renew frequently in the course of the day and night. at noon we were visited by 4 indians who informed us they had come from their village on Lewis's river at the distance of two days ride in order to see us and obtain a little eyewater, Capt. C. washed their eyes and they set out on their return to their village. our skill as physicians and the virtue of our medicines have been spread it seems to a great distance. I sincerely wish it was in our power to give relief to these poor aff[li]cted wretches.

May 24 — [Lewis:] The child was very wrestless last night; it's jaw and the back of it's neck are much more swollen than they were yesterday tho' his fever has abated considerably. we gave it a doze of creem of tartar and applyed a fresh poltice of onions. we ordered some of the hunters out this morning and directed them to pass

Collins's creek if possible and hunt towards the quawmash feilds. William Bratton still continues very unwell; he eats heartily digests his food well, and has recovered his flesh almost perfectly, yet is so weak in the loins that he is scarcely able to walk, nor can he set upwright but with the greatest pain. we have tried every remidy which our engenuity could devise, or with which our stock of medicines furnished us, without effect. John Sheilds observed that he had seen men in a similar situation restored by violent sweats. Bratton requested that he might be sweated in the manner proposed by Sheilds to which we consented. Sheilds sunk a circular hole of 3 feet diamiter and four feet deep in the earth. he kindled a large fire in the hole and heated well, after which the fire was taken out a seat placed in the center of the hole for the patient with a board at bottom for his feet to rest on; some hoops of willow poles were bent in an arch crossing each other over the hole, on these several blankets were thrown forming a secure and thick orning of about 3 feet high. the patient being striped naked was seated under this orning in the hole and the blankets well secured on every side. the patient was furnished with a vessell of water which he sprinkles on the bottom and sides of the hole and by that means creates as much steam or vapor as he could possible bear, in this situation he was kept about 20 minutes after which he was taken out and suddonly plunged in cold water twice and was then immediately returned to the sweat hole where he was continued three quarters of an hour longer then taken out covered up in several blankets and suffered to cool gradually. during the time of his being in the sweat hole, he drank copious draughts of a strong tea of horse mint. Sheilds says that he had previously seen the tea of Sinneca snake root used in stead of the mint which was now employed for the want of the other which is not to be found in this country. this experiment was made yesterday; Bratton feels himself much better and is walking about today and says he is nearly free from pain. at 11 A.M. a canoe arrived with 3 of the natives one of them the sick man of whom I have before made mention as having lost the power of his limbs. he is a chief of considerable note among them and they seem extremely anxious for his recovery. as he complains of no pain in any particular part we conceive it cannot be the rheumatism, nor do we suppose that it can be a paretic attack or his limbs would have been more deminished. we have supposed that it was some disorder which owed it's origine to a diet of particular roots perhaps and such as we have never before witnessed. while at the village of

the broken arm we had recommended a diet of fish or flesh for this man and the cold bath every morning. we had also given him a few dozes of creem of tarter and flour of sulpher to be repeated every 3d day. this poor wretch thinks that he feels himself somewhat better but to me there appears to be no visible alteration. we are at a loss what to do for this unfortunate man. we gave him a few drops of Laudanum and a little portable soup.

May 25 – [Lewis:] the Child is more unwell than yesterday. we gave it a doze of creem of tartar which did not operate, we therefore gave it a clyster in the evening. we caused sweat to be prepared for the indian Cheif in the same manner in which Bratton had been sweated, this we attempted but were unable to succeed, as he was unable to set up or be supported in the place. we informed the indians that we knew of no relief for him except sweating him in their sweat houses and giving him a plenty of the tea of the horse mint which we shewed them. and that this would probably not succeed as he had been so long in his present situation. I am confident that this would be an excellent subject for electricity and much regret that I have it not in my power to supply it.

May 26 – [Lewis:] The Clyster given the Child last evening operated very well. it is clear of fever this evening and is much better, the swelling is considerably abated and appears as if it would pass off without coming to a head. we still continue fresh poltices of onions to the swollen part. we directed the indians in what manner to treat the di[s]eased Chief, gave him a few dozes of flour of sulpher and Creem of tartar & some portable soupe and directed them to take him home. they seemed unwilling to comply with the latter part of the injunction for they consumed the day and remained the night with us.

May 27 – [Lewis:] Charbono's son is much better today, tho' the swelling on the side of his neck I believe will terminate in an ugly imposthume a little below the ear. the indians were so anxious that the sick Chief should be sweated under our inspection that they requested we would make a second atte[m]pt today; accordingly the hole was somewhat enlarged and his father a very good looking old man, went into the hole with him and sustained him in a proper position during the operation; we could not make him sweat as copiously as we wished, after the operation he complained of considerable pain, we gave him 30 drops of laudanum which soon composed him and he rested very well.

**May 28** — [Lewis:] The sick chief was much better this morning he can use his hands and arms and seems much pleased with the prospect of recovering, he says he feels much better than he has for a great number of months. I sincerely wish these sweats restore him; we have consented that he should still remain with us and repeat the sweats. he set up a great proportion of the day. the Child is also better, he is free of fever, the imposthume is not so large but seems to be advancing to maturity.

**May 29** — [Lewis:] Bratton is recovering his strength very fast, the Child and the Indian Chief are also on the recovery. The chief has much more use of his hands and arms. he washed his face himself today which he has been unable to do previously for more than twelve months. we would have repeated the sweat today had [it] not been cloudy and frequently rainy, . . .

**May 30** — [Lewis:] all our invalids are on the recovery. we gave the sick Chief a severe sweat today, shortly after which he could move one of his legs and thyes and work his toes pretty well, the other leg he can move a little; his fingers and arms seem to be almost entirely restored. he seems highly delighted with his recovery. I begin to entertain strong hope of his restoration by these sweats.

**June 3** — [Lewis:] Our invalids are all on the recovery; Bratton is much stronger and can walk about with considerable ease. The Indian Chief appears to be gradually recovering the use of his limbs, and the child is nearly well; the imposthume on his neck has in a great measure subsided and left a hard lump underneath his left ear; we still continue the application of the onion poltice.

**June 5** — [Lewis:] we gave the indian chief another sweat today, continuing it as long as he could possibly bear it; in the evening he was very languid but appeared still to improve in the use of his limbs. the child is recovering fast the inflammation has subsided intirely, we discontinued the poltice, and applied a plaster of basilicon; the part is still considerably swollen and hard.

**June 5** — [Clark:] I applied a plaster of sarve (salve) made of the rozen of the long leafed pine, beeswax and Bears oil mixed, which has subsided the inflomation entirely, the part is considerably swelled & hard.

**June 8** — [Lewis:] the sick Chief is fast on the recovery, he can bear his weight on his legs, and has acquired a condiserable portion

of strength. the child is nearly well; Bratton has so far recovered that we cannot well consider him an invalid any longer, he has had a tedious illness, which he boar with much fortitude and firmness.

June 18 — [Lewis:] we had not preceeded far this morning before Potts cut his leg very badly with one of the large knives; he cut one of the veigns on the inner side of the leg; I found much difficulty in stopping the blood which I could not effect untill I applyed a tight bandage with a little cushon of wood and tow on the veign below the wound.

June 22 — [Lewis:] Pott's legg is inflamed and very painfull to him. we apply a poltice of the roots of Cows.

June 25 — [Lewis:] one of our guides complained of being unwell, a symptom which I did not much like as such complaints with an indian is generally the prelude to his abandoning any enterprize with which he is not well pleased. . . . I gave the si[c]k indian a buffaloe robe he having no other covering except his mockersons and a dressed Elkskin without the hair.

June 26 — [Clark:] I was taken yesterday with a violent pain in my head which has tormented me ever since most violently.

June 27 — [Lewis:] Potts's legg which has been much swollen and inflammed for several days is much better this evening and gives him but little pain. we applyed the pounded roots and leaves of the wild *ginger* from which he found great relief.

June 27 — [Clark:] my head has not pained me so much to day as yesterday and last night.

July 2 — [Lewis:] Goodrich and McNeal are both very unwell with the pox which they contracted last winter with the Chinook women. This forms my inducement principally for taking them to the falls of the Missouri, where during an interval of rest they can use the mercury freely.



*Indian petroglyphs such as these were reported by Lewis and Clark on rock bluffs along the Big Nemaha River in southeast Nebraska.*

## LEWIS' EXPLORATION OF MARIA'S RIVER

July 3 to August 12, 1806

[Here Lewis began his exploration of Maria's River July 3 to August 12, 1806. His account for the entire period will first be given, then Clark's journal entries while he followed the Yellowstone River will be introduced.]

July 13 — [Lewis opened the cache, found several items spoiled]. . . and the stopper had come out of a phial of laudinum and the contents had run into the drawer and destroyed a great part of my medicine in such a manner that it was past recovery.

Aug. 11 — . . . opposite to the birnt hills there happened to be a herd of Elk on a thick willow bar and finding that my observation was lost for the present I determined to land and kill some of them accordingly we put too and I went out with Cruzatte only. we fired on the Elk I killed one and he wounded another, we reloaded our guns and took different routs through the thick willows in pursuit of the Elk; I was in the act of firing on the Elk a second time when a ball struck my left thye about an inch below my hip joint, missing the bone it passed through the left thye and cut the thickness of the bullet across the hinder part of the right thye; the stroke was very severe; I instantly supposed that Cruzatte had shot me in mistake for an Elk as I was dressed in brown leather and he cannot see very well; under this impression I called out to him damn you, you have shot me, and looked towards the place from whence the ball had come, seeing nothing I called Cruzatte several times as loud as I could but received no answer; . . .

[Lewis then assumed that it was an Indian who had shot him. He ran back to the perogue and called the men to follow him to help save Cruzatte. The men followed him about one hundred paces, but Lewis' wound became so painful and his leg so stiff that he could not proceed, whereupon he returned to the perogue. When Cruzatte returned to the boat, he denied having shot Lewis, but no Indians could be found. Lewis said the ball lodged in his pants and it was the ball of a rifle similar to the one Cruzatte had, so he was sure Cruzatte had shot him.]

Aug. 11 — with the assistance of Sergt. Glass I took off my cloaths and dressed my wounds myself as well as I could, introducing tents of patent lint into the ball holes, the wounds bleed considerably but I was hapy to find that it had touched neither bone

nor artery . . . as it was painfull to me to be removed I slept on board the perogue; the pain I experienced excited a high fever and I had a very uncomfortable night.

Aug. 12 — my wounds felt very stiff and soar this morning but gave me no considerable pain. there was much less inflamation than I had reason to apprehend there would be. I had last evening applied a poltice of peruvian barks. . . as wrighting in my present situation is extreemly painful to me I shall desist untill I recover and leave to my friend Capt. C. the continuation of our journal.

### CLARK'S EXPLORATION OF THE YELLOWSTONE

July 3 to August 12, 1806

July 3 — one man Jo: Potts very unwell this evening owing to rideing a hard trotting horse; I gave him a pill of Opiom which soon releve[d] him.

July 18 — Gibson in attempting to mount his horse after Shooting a deer this evening fell on a Snag and sent it nearly [two] inches into the Muskeler part of his thy. he informs me this snag was aobut 1 inch in diameeter burnt at the end. this is a very bad wound and pains him exceedingly. I dressed the wound.

July 19 —I rose early and dressed Gibsons wound. he slept but very little last night and complains of great pain in his Kne and hip as well as his *thy*. there being no timber on . . . the Rochejhone sufficiently large for a Canoe and time is pracious as it is our wish to get to the U States this Season, conclude to take Gibson in a litter if he is not able to ride on down the river untill I can find a tree Sufficently large for my purpose. I had the strongest and jentlest Horse Saddled and placed Skins & blankets in such a manner that when he was put on the horse he felt himself in as easy a position as when lying. this was a fortunate circumstance as he could go much more at his ease than in a litter. . . I proceeded on about 9 miles, and halted to let the horses graze and let Gibson rest. his leg become So numed from remaining in one position, as to render [it] extreemly painfull to him. I derveded Shields to keep through the thick timber and examine for a tree sufficiently large & sound to make a canoe, and also hunt for some Wild Ginger for a Poltice for Gibsons wound. he joined me at dinner with 2 fat Bucks but found neither tree or Ginger. . . Gibsons *thy* became So painfull that he

could not set on the horse after rideing about 2 hours and a half. I directed Sergt Pryor and one man to continue with him under the Shade of a tree for an hour and then proceed on to the place I should encamp which would be in the first good (timber for canoes) below. . . . at dark when I returned to Camp Sergt Pryor had returned with Gibson.

**Aug. 12** – I washed Capt L wound which has become Sore and Somewhat painfull to him.

**Aug. 19** – Capt Lewis's wounds are heeling very fast, I am much in hope of his being able to walk in 8 or 10 days.

**Aug. 22** – I am happy to have it in my power to Say that my worthy friend Capt Lewis is recovering fast, he walked a little to day for the first time. I have discontinu[e]d the tent in the hole the ball came out

**Aug. 23** – My friend Capt Lewis is recovering fast the hole in his thy where the Ball passed out is closed and appears to be nearly well. the one where the ball entered discharges very well.

**Aug. 26** – Capt L is Still on the mending hand he walks a little. I have discontinued the tent in the hole where the ball entered, agreeable to his request he tells me that he is fully convinced that the wound is sufficiently heeled for the tents to be discontinued.

**Aug. 27** – My friend Capt Lewis hurt himself very much by taking a longer walk on the sand bar in my absence at the buffalowo than he had strength to undergo, which caused him to remain very unwell all night.

**Aug. 28** – Capt Lewis had [a] bad nights rest and is not very well this morning.

**Aug. 30** – Capt Lewis is mending Slowly.

**Sept. 2** – Capt L. is mending fast.

**Sept. 3** – I am happy to find that my worthey friend Capt L's is so well as to walk about with ease to himself &c.

**Sept. 5** – Capt Lewis still in a convelesent State.

**Sept. 9** – My worthy friend Cap Lewis has entirely recovered his wounds are heeled up and he can walk and even run nearly as well as ever he could, the parts are yet tender &c&c.



*The President Jefferson Peace Medal was distributed among the Indians by the Lewis and Clark Expedition. This is the obverse of a Jefferson medal recovered by Nebraska State Historical Society archeologists, who excavated a Pawnee Village site.*

Sept. 13 – I felt my self very unwell and derected a little Chocolate which Mr McClellin gave us, prepared of which I drank about a pint and found great relief.

Sept. 18 – one of our party J. Potts complains very much of one of his eyes which is burnt by the Sun from exposing his face without a cover from the Sun. Shannon also complains of his face & eyes &c.

Sept. 19 – a very singular disorder is taking place amongst our party that of the Sore eyes. three of the party have their eyes inflamed and Sweled in Such a manner as to render them extreemly painfull, particularly when exposed to the light, the eye ball is much inflamed and the lid appears burnt with the Sun, the cause of this

complaint of the eye I can't (account) for. . . from it's sudden appearance I am willing to believe it may be owing to the reflection of the sun on the water.<sup>22</sup>

Sept. 20 — as three of the party was unable to row from the State of their eyes we found it necessary to leave one of our crafts and divide the men into the other canoes. . . .

Sept. 23 — took an early breckfast with Col. Hunt and Set out decended to the Mississippi and down that river to St. Louis at which place we arrived about 12 oClock.

#### MEDICINE REQUESTED BY CAPTAIN LEWIS<sup>23</sup>

15 lbs.	best powder'd Bark
10 lbs.	Epsom or Glauber Salts
4 oz.	Calomel
12 oz.	Opium
½ oz.	Tarter emetic
8 oz.	Borax
4 oz.	Powder'd Ipecacuana
8 oz.	Powder Jalap
8 oz.	Powdered Rhubarb
6	Best lancets
2 oz.	White Vitriol
4 oz.	Lacteaum Saturni
4	Pewter Penis Syringes
1	Flour of Sulphur
3	Clyster pipes
4 oz.	Turlingtons Balsam
2 lbs.	Yellow Bascilicum
2	Sticks of Symple Diachylon
1 lb.	Blistering Ointments
2 lbs.	Nitre
2 lbs.	Coperas

#### MEDICINES &c<sup>24</sup>

1	Box	Wt.	\$90.69
1	Do.	Wt.	
2	lbs.	Tea & Cannister W 2 lbs.	3.80
			<u>94.49</u>

## PROVISIONS &amp;c

193	lbs. P. Soup	289.50
30	Galls Spr of Wine in 6 Kegs	77.20

## MEDICINES TAKEN ON THE EXPEDITION

Following is a list of the medicines stocked by the expedition. It includes the amount taken along, the cost of the medicine, the recommended dosage per individual, and in some cases its composition and its intended use:<sup>25</sup>

	Amount	Cost	Dosage
Bals Copaiboe	¼ lb.	.37	20 drops to a fluid drachm(dram)
Balsam of Copaiba is a gentle stimulant, diuretic, laxative and in very large doses an active purgative. It produces, when swallowed, a sense of heat in the throat and stomach and a definite odor on the breath. It sometimes causes eruptions of the skin resembling that of measles and attended with itching. It is most efficient in chronic dysentery, diarrhoea, hemorrhoids, chronic bronchitis, and gonorrhoea.			
Bals Traumat	¼ lb.	.50	2 fluidrachms
120 grams Benzoin; 20 grams purified Aloes; 80 grams Storax; 40 grams Balsam of Tolu; 800 cc alcohol. Mix. Digest 2 hrs. in closed vessel and strain. Use: dysentery.			
Calomel	4 oz.	.67	6 to 20 grams
Mercurous chloride is used as a mild laxative, in bilious fevers, dysentery, obstinate vomiting and is most often combined with jalap or rhubarb. In very large doses it may act as a sedative. Applied externally it may help control the venereal ulcers.			
Columbo Rad	½ lb.	1.00	10 to 60 grains
It is the most useful of the mild tonics and is used in the declining stages of dysentery and diarrhoea. It is most commonly given in the form of a tincture which may be prepared by combining 3 oz. of bruised Columbo root and 2 pints brandy. Digest for several days then strain.			
Cream of Tartar	2 lb.	.67	4 to 12 drams
Potassium Bitartrate in small doses is a cooling aperient and in large doses it is a cathartic producing large quantities of watery stool.			
Elixir or Vitriol	¼ lb.	.25	2 to 5 grains
Aromatic sulphuric acid is a tonic and astringent and acts as does diluted sulphuric acid. Another dosage may be 10 to 30 drops in a wineglassful of water.			

- Gum Assafoetida 1 lb. .67 3 to 10 grains  
This is a powerful antispasmodic and is employed in hysteria, hypochondria, convulsions, and spasms when unaccompanied by inflammation.
- Gum Camphor 2 oz. .40 4 to 20 grains  
Camphor is an anodyne and stimulant and in large doses a narcotic and irritant. It is excellent for liniments.
- Gum Opii Turk ½ lb. 2.50  
Gum Opium was used as a pain killer. For small areas a ball the size of a pea was used and for larger areas a musket ball size.
- Gum Tragacanth ¼ lb. .37  
Tragacanth is a demulcent, but, on account of its difficult solubility, is not often given internally. It is useful for the suspension of heavy insoluble powders when it is mixed with water.
- Ipecacuan 4 oz. 1.25 15 to 30 grams  
In large doses Ipecacuan is a systematic emetic. In small doses it relieves nausea and irritation.
- Jalap ½ lb. .67 15 to 40 grams  
It is a drastic cathartic and is usually combined with equal parts of calomel.
- Laudanum 4 oz. .50 20 to 60 drops  
Take 2 oz. purified opium and 2 pints brandy. Digest for 8 to 10 days, frequently shaking the bottle, and then strain off the Tincture. It is used as a stimulant, pain killer, or narcotic according to the size of dose administered.
- Magnesia 2 oz. .20  
Magnesia is an antacid and laxative. The dose as a laxative is from 30 grains to a drachm; as an antacid from 10 to 30 grains twice a day. It should be administered in water or milk.
- Peru 15 lb. 30.00 30 grains to 2 drams  
Sulphate of Quina or Quinine is a tonic and antiseptic.
- Rhei ½ lb. 1.00 15 to 50 grams  
Rhubarb is much used for its laxative, tonic, and astringent effects.
- Sacchar. Saturn 6 oz. .37 1 to 6 grains  
Lead acetate or sugar of lead, in medicinal doses, is a powerful astringent and sedative. It is especially useful in the treatment of



ounce of water. A strong solution is recommended for sores in the throat as well as chancies.

1	Emplast Diach 5	.50
1	set Pocket Insts. Small	9.50
1	set Teeth Insts. Small	2.25
1	Clyster Syringe	2.75
4	Penis do	1.00
3	Best Lancets .80	2.40
1	Tourniquet	3.50
2	oz. Patent Lint	.25
50	Doz. Biliois Pills to order of Dr. B. Rush 10	5.00
6	Tin Canisters 25	1.50
3	8 oz. Gd. Stopd. Bottles	1.20
5	4 oz. Tinctures do	1.85
6	4 oz. Salt Ms.	2.22
1	Walnut Chest	4.50
1	Pine do	1.20
	Porterage	.30
	Total	<u>\$90.69</u>

The information found in the preceding list was compiled from the following sources:

Coxe, John Redman, M.D. *The American Dispensary*, Philadelphia: Carey and Lea, 1830.

Dunglison, Robley M.D. *A Dictionary of Medical Science*. Philadelphia: Lea and Blanchard, 1846.

Ewell, James, M.D. *The Planters and Mariners Medical Companion*. Philadelphia: 1807.

Pierce, R. V., M.D. *The Peoples Common Sense Medical Adviser*. Buffalo: 1895.

Wood, George B., M.D., and Franklin Bache, M.D. *The Dispensary of the United States of America*. Philadelphia: Lippincott, 1894.

## NOTES

1. Drake W. Will, "The Medical and Surgical Practice of the Lewis and Clark Expedition," *Journal of the History of Medicine* (July, 1959), 275.

2. Will, 278. The original spelling and sentence structure of the Lewis and Clark journals are maintained in this article.

3. Reuben G. Thwaites, editor, *Original Journals of the Lewis and Clark Expedition* (8 vols.; New York: Dodd, Mead & Company, 1905), I, 66-266 includes entries of July 4, 1804, to February 28, 1805. This incident occurred at Gosling Lake, near the Iowa-Missouri border. According to Sergeant Ordway, Fields was bitten on the foot, probably by a rattlesnake. By July 9 Patrick Glass records that Fields was well. Purpose of the poultice was to create irritation and draw blood to the afflicted area. Gunpowder and quinine serve as irritants and make the skin tissues act as a semi-permeable membrane, letting the venom flow into the poultice. (Richard Greer, M.D., personal interview, Topeka, 19 March, 1969, with the editor.)

4. Nitre is the common drug used for fever and may be compared to aspirin. Nitre makes the patient urinate in large quantities, thus reducing the fever. To bleed, a ribbon with some degree of tightness is applied an inch or two above the elbow, and as soon as the vein is conspicuous, place the thumb of the left hand about an inch above the place of puncture. Then with the right hand, holding the lancet firmly between thumb and forefinger, make an incision obliquely into the vein without changing direction or raising the handle, lest the point, being lower in proportion, should cut the under part of the vein or perhaps an artery. When the quantity of blood wished is drawn, untie ribbon and close the orifice. (Dr. James Ewell, *The Planters and Mariners Medical Companion*, 224). Blood letting was the "anchor of hope" in this disease, and was "employed copiously on its first attack, and repeated as the symptoms and strength of the patient will permit." Immediately after bleeding a large dose of salts or some cooling purge was given. Folds of cloth wet with vinegar or cold water were applied to the head, and if symptoms remained, the head was shaved and covered with a "blister."

5. According to the Nicholas Biddle edition of the Lewis and Clark journals, tumors were caused by the muddy river water. They broke out generally under the arms and legs, and remained only a few days. A poultice was used occasionally.

6. It has since been determined that Floyd died of acute peritonitis or ruptured appendix, so there was nothing Lewis could have done.

7. The proper method of correcting a dislocated shoulder is to have the patient sit on a stool and have an assistant hold his body firm. Then the operator takes hold of the arm a little above the elbow and gradually extends it. A napkin is then put under the arm of the patient and tied around the neck of the operator. The operator lifts the head of the bone, and with his hands directs it into place. The elbow should always be a little bent. (Ewell, 215)

8. Where the parts are frostbitten by long exposure to the cold, they were plunged into the coldest water, then rubbed with salt. If numb, the parts were rubbed with spirit of wine and camphor to which a little laudanum was added if the pain or itching was too severe.

9. The woman was Sacajawea. The child they called Pompey.

10. Thwaites, II, 22-289, includes entries of May 10, 1805, to July 31, 1805. This mildly astringent solution was so successful in treating the conjunctivitis they found

so common that it became their most successful trade item. Blindness, undoubtedly due to trachoma and venereal disease, was very commonly observed by the explorers, but is distinguished carefully in the journals from the prevalent "soar eyes" which afflicted both Indian and explorer. (Will, 294)

11. Glauber's Salts were an effective cathartic.

12. Lewis was trained by his mother in the use of herbs. Choke cherry contains some tannin and hydrocyanic acid. Hydrocyanic acid is useful as a bowel sedative and tannic acid is helpful in controlling dysentery.

13. Will concludes from the symptoms that she must have had an acute pelvic inflammatory disease, either recently acquired or an irritation of a chronic infection. (Will, 290)

14. Whitlows are an inflammation, swelling, and burning around the fingernails. Remedy: Bathe the finger in a mixture of 4 oz. camphor, ½ oz. laudanum, 2 drams of lead. (Ewell, 2)

15. Thwaites, III, 28-266, includes entries of August 24, 1805, through January 21, 1806. The peppermint was used to relieve the gas and settle the stomach, and laudanum used to stop the pain.

16. In a conversation with Dr. Richard Greer, he indicated that he had seen similar symptoms when men ate wild turnips.

17. The symptoms of scrofula are hard tumors on the neck, the lymphatic glands, behind the ears, or under the chin. They may be removed by bathing them in salt water or applying lead water.

18. Meriwether Lewis, *The Journals of Lewis and Clark*, Nicholas Biddle, editor, (New York: Heritage Press, 1962), Vol. 2, p. 370. Salivation by mercury, once thought to be helpful, is injurious and should be avoided because of excessive salivation. Lobelia or Indian tobacco was used as a powerful emetic, but was very depressing. Dose: 15 to 20 grains of the powdered leaves.

19. Thwaites, IV, 57-365, includes entries of February 10, 1806, through May 6, 1806.

20. The eye water contained 2 grains of lead acetate and 1 grain of zinc sulphate. Ela is a corruption of calamine. V represents vitriol. Zinc sulphate was made by dissolving calamine in sulphuric acid. Sacch Stry refers to lead acetate. (Will, 294)

21. Thwaites, V, 20-393, includes entries of May 11, 1806, through September 23, 1806.

22. This disease was trachoma.

23. Thwaites, VII, 236.

24. Thwaites, VII, 241.

25. For an explanation of weights and measures see James Ewell, M. D., *A Planter's and Mariner's Medical Companion* (Philadelphia: 1807), 304.

20 grains make	1 scruple
3 scruples "	1 drachm (dram)
8 drachms "	1 ounce
16 ounces "	1 pint

1 teaspoonful equals 60 drops or 1 drachm.

1 tablespoonful is the measure of ½ ounce.

1 large wineglass-full equals 2 ounces.