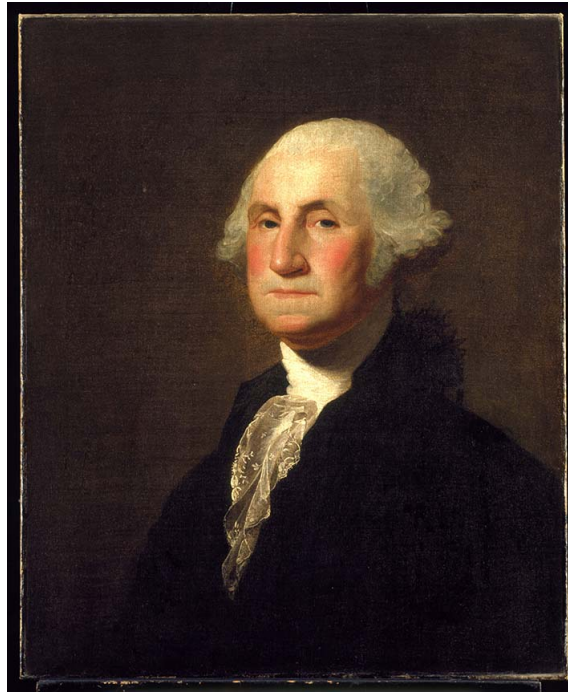
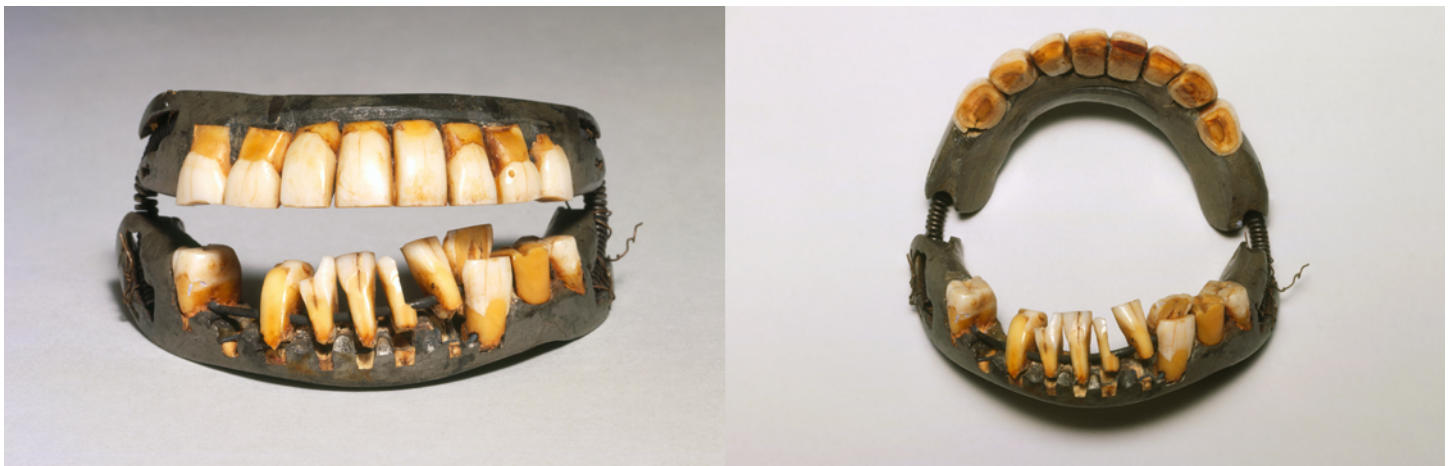


## George Washington's Teeth



*George Washington by Gilbert Stuart, ca. 1798  
Courtesy Mount Vernon Ladies' Association*



George Washington's dentures, ca. 1790-1799

Lead (base); human teeth, cow teeth, and elephant ivory (teeth); brass wires, steel springs.

*Courtesy Mount Vernon Ladies' Association*

## George Washington's Teeth

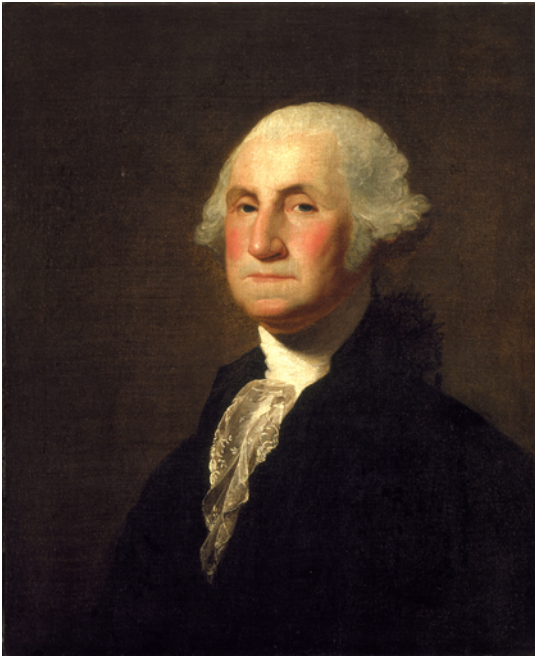


George Washington's dental hygiene traveling set, ca. 1795  
Items from bottom to top: container for tooth powder, tooth brush,  
tongue scraper, and traveling case.  
*Courtesy Mount Vernon Ladies' Association*



John Greenwood, 1760-1819  
*Courtesy Library of Congress*

## George Washington and Medicine



George Washington by Gilbert Stuart, ca. 1798  
Courtesy Mount Vernon Ladies' Association

### QUOTE 1

"During Washington's life (1732–1799), medicine in America followed the practices of England. These practices were defined by speculative hypotheses, domestic remedies, and the beginnings of scientific investigation and formal education."

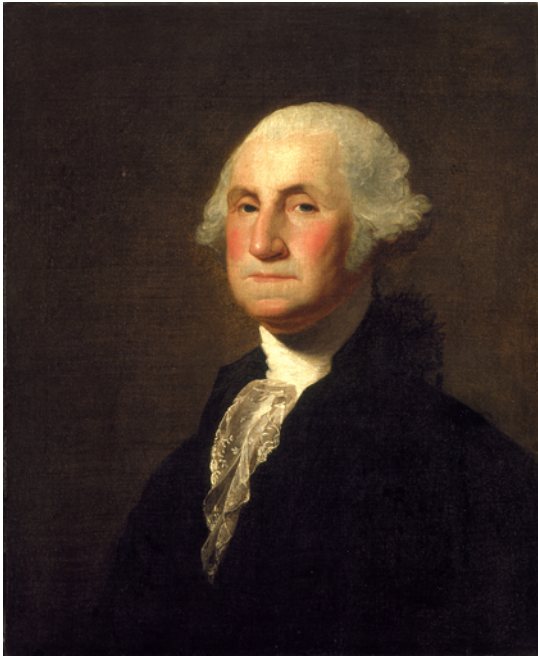
### QUOTE 2

"Washington's status and wealth gave him—and his community—special privileges. During his life time, with the practice of medicine slowly becoming a licensed profession, he could call on a growing class of experts and new knowledge about the spread and prevention of disease. Even so, Washington, like everyone else of his era, encountered the limits of medicine when faced with serious illnesses."

1. Read the quote above, circling words whose meanings are not clear from your reading.
2. What is the key topic in the first quote? You may choose a phrase from the quote.
3. What kind of circumstance does the second quote describe about George Washington and the state of medical care in his time?
4. List the words you have circled below, look them up in a dictionary, and note their meanings next to the words below.
5. What kinds of injuries and illness do you know of that George Washington suffered from during his lifetime?



## Teacher's George Washington and Medicine



George Washington by Gilbert Stuart, ca. 1798  
Courtesy Mount Vernon Ladies' Association

### QUOTE 1

"During Washington's life (1732–1799), medicine in America followed the practices of England. These practices were defined by speculative hypotheses, domestic remedies, and the beginnings of scientific investigation and formal education."

### QUOTE 2

"Washington's status and wealth gave him—and his community—special privileges. During his life time, with the practice of medicine slowly becoming a licensed profession, he could call on a growing class of experts and new knowledge about the spread and prevention of disease. Even so, Washington, like everyone else of his era, encountered the limits of medicine when faced with serious illnesses."

1. Read the quote above, circling words whose meanings are not clear from your reading.  
*Students might identify different words.*
2. What is the key topic in the first quote? You may choose a phrase from the quote.  
*To answer might be "medicine in America" in the 1700s or during Washington's life time. The key is the connection that students make between Washington and the medicine of his time.*
3. What kind of circumstance does the second quote describe about George Washington and the state of medical care in his time?  
*It describes Washington being in a privileged situation, providing access to new experts and knowledge albeit limited at that time. The quote describes medicine as a new profession with growing but limited knowledge.*
4. List the words you have circled below, look them up in a dictionary, and note their meanings next to the words below.  
*Some of the words that students might note and learn might be: speculative (unproven ideas); remedies (treatments); investigation (study, research, experiment); licensed profession (expert); encountered (met).*
5. What kinds of injuries and illness do you know of that George Washington suffered from during his lifetime?  
*Students might know of the following ailments that Washington had: malaria, smallpox, bad teeth—having dentures, measles, etc. This discussion is to guide students to their next task.*



## Teacher's Vocabulary Worksheet: "Home and Hardship"

WORDS	YOUR DEFINITION	DICTIONARY DEFINITION
ague		<i>fever (as malaria) marked by paroxysms of chills, fever, and sweating that recur at regular intervals</i>
mortality rate		<i>rate of death in a population</i>
tuberculosis		<i>a usually chronic highly variable disease that is caused by a bacterium of the genus Mycobacterium (M. tuberculosis) and rarely in the United States by a related mycobacterium (M. bovis), is usually communicated by inhalation of the airborne causative agent, affects especially the lungs but may spread to other areas (as the kidney or spinal column) from local lesions or by way of the lymph or blood vessels, and is characterized by fever, cough, difficulty in breathing, inflammatory infiltrations, formation of tubercles, caseation, pleural effusion, and fibrosis</i>
immune		<i>not susceptible or responsive ; especially: having a high degree of resistance to a disease</i>
anthrax		<i>an infectious disease of warm-blooded animals (as cattle and sheep) caused by a spore-forming bacterium (Bacillus anthracis), transmissible to humans especially by the handling of infected products (as hair), and characterized by external ulcerating nodules or by lesions in the lungs</i>
epilepsy		<i>any of various disorders marked by abnormal electrical discharges in the brain and typically manifested by sudden brief episodes of altered or diminished consciousness, involuntary movements, or convulsions</i>
seizures		<i>a sudden attack (as of disease) ; especially: the physical manifestations (as convulsions, sensory disturbances, or loss of consciousness) resulting from abnormal electrical discharges in the brain (as in epilepsy)</i>
purging		<i>a sudden attack (as of disease) ; especially: the physical manifestations (as convulsions, sensory disturbances, or loss of consciousness) resulting from abnormal electrical discharges in the brain (as in epilepsy)</i>

## Teacher's Vocabulary Worksheet: "In Sickness and In Health"

WORDS	YOUR DEFINITION	DICTIONARY DEFINITION
dysentery		<i>a disease characterized by severe diarrhea with passage of mucus and blood and usually caused by infection</i>
anthrax		<i>an infectious disease of warm-blooded animals (as cattle and sheep) caused by a spore-forming bacterium (Bacillus anthracis), transmissible to humans especially by the handling of infected products (as hair), and characterized by external ulcerating nodules or by lesions in the lungs</i>
pneumonia		<i>disease of the lungs that is characterized especially by inflammation and consolidation of lung tissue followed by resolution, is accompanied by fever, chills, cough, and difficulty in breathing, and is caused chiefly by infection</i>
rheumatism		<i>any of various conditions characterized by inflammation or pain in muscles, joints, or fibrous tissue</i>
absessed		<i>characterized by a localized collection of pus surrounded by inflamed tissue</i>
smallpox		<i>an acute contagious febrile disease of humans that is caused by a poxvirus of the genus Orthopoxvirus (species Variola virus), is characterized by skin eruption with pustules, sloughing, and scar formation, and is believed to have been eradicated globally by widespread vaccination</i>
cultivation		<i>the act of raising crops</i>
salve		<i>an unctuous adhesive substance for application to wounds or sores</i>

## Teacher's Vocabulary Worksheet: "At Journey's End"

WORDS	YOUR DEFINITION	DICTIONARY DEFINITION
bloodletting		<i>the letting of blood for transfusion, apheresis, diagnostic testing, or experimental procedures and widely used in the past to treat many types of disease</i>
purgative		<i>a medicine causing evacuation from (as the bowels) or of or from the bowels of</i>
emetic		<i>an agent that induces vomiting</i>
enema		<i>the injection of liquid into the intestine by way of the anus (as for cleansing or examination)</i>
phlebotomy		<i>the letting of blood widely used in the past to treat many types of disease</i>
phlegm		<i>viscid mucus secreted in abnormal quantity in the respiratory passages</i>
bile		<i>a yellow or greenish viscid alkaline fluid secreted by the liver and passed into the duodenum where it aids especially in the emulsification and absorption of fats</i>
inflammation		<i>a local response to cellular injury that is marked by capillary dilatation, leukocytic infiltration, redness, heat, pain, swelling, and often loss of function and that serves as a mechanism initiating the elimination of noxious agents and of damaged tissue</i>
tracheotomy		<i>the surgical operation of cutting into the trachea (the main trunk of the system of tubes by which air passes to and from the lungs) especially through the skin</i>
eulogy		<i>a commendatory oration or writing especially in honor of one deceased</i>



## *George Washington and Medicine: Findings*

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1. Write the title of the exhibition section that you are assigned:

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2. What health issues are mentioned in this section and whom did they affect?

3. What were some specific medical treatments available at the time? Include what conditions the treatments were for.

4. List the health issues mentioned in this section that still affect us and how we treat them today.

## Teacher's *George Washington and Medicine*: Findings

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1. Write the title of the exhibition section that you are assigned:

*Title of one of the three assigned sections*

2. What health issues are mentioned in this section and whom did they affect?

**Home and Hardship:** fits, fevers, and agues among the Washingtons; tuberculosis for Lawrence Washington; fevers, infections, breathing problems, anthrax, smallpox, malaria for George Washington; epilepsy for Martha Parke Curtis (Patsy)

**In Sickness and in Health:** dysentery, anthrax, pneumonia, skin cancer seasonal malaria, lung problems, rheumatism, hearing loss, and failing eye-sight for George Washington; measles and gall bladder disease for Martha Washington

**At Journey's End:** cold, acute swelling and obstruction of his airways for George Washington

3. What were some specific medical treatments available at the time? Include what conditions the treatments were for.

**Home and Hardship:** tuberculosis—warm sea air in Barbados; patent medicine and ingredients for homemade medications including ipecacuane, diascordium, tincture of myrrh, and spirits of lavender for various treatments before a doctor was called; epilepsy—warm mineral spring baths, mercury pills, diets, and iron rings

**In Sickness and in Health:** bad eye sight—eye glasses; bad teeth—tooth extraction and false teeth; vegetables and herbs for home remedies

**At Journey's End:** difficulty breathing—bloodletting, purgatives, emetics, enemas, blistering, menthol vapor

4. List the health issues mentioned in this section that still affect us and how we treat them today.

**Student answers may include the following:**

measles, smallpox—vaccination; tuberculosis—antibiotic medicine; fever and infection—antibiotic or antiviral medications; dysentery—clean water and drinks with electrolytes; malaria—anti-malaria pills; bad eyes—eye surgeries, glasses, and contact lenses; rheumatism—anti-pain and anti-inflammation medications; bad teeth—fillings, extraction, crowns, tooth implants, dentures; etc.

## Evaluation Checklists for *George Washington and Medicine* Project

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**TASK:** Each pair is to create a poster that informs others about the health issue chosen/assigned. The poster should educate viewers about the health issue's impact on Washington's life and about today's prevention and treatments. All students will also write a minimum two-page essay about the health issue comparing people's understanding of it and treatments for it during Washington's era (18th century) versus today's. Below are evaluation checklists that will be used for assessing individual essays and pair-created posters.

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### **PAIR POSTER Checklist** (50 points)

#### **Visual presentation elements** (30 points):

- Elements are visually attractive and relevant to the health issue
- Poster title is in a central location and clearly visible
- Various visual items—illustrations, image printouts, charts, etc.—are
  - relevant to the health topic
  - convey information clearly
- Sources for all visual examples/references are cited

#### **Information presentation** (20 points)

- free of spelling errors
  - easy to read and understand
  - contains accurate information
  - includes full names of poster authors/creators
- 

### **INDIVIDUAL ESSAY Checklist** (50 points)

#### **Format**

- Sentences are clear.
- Sentences are grammatically correct.
- There are no spelling errors.
- Each paragraph begins with an appropriate topic sentence and has at least 5 complete sentences.
- Each paragraph focuses on a single topic that supports the main idea.
- At least 3 relevant and reliable sources are used and listed correctly on a bibliography.
- Paper is at minimum two pages long.

### Introduction

- Title reflects the topic of the essay.
- Main idea or argument is clearly stated.
- Key supporting points are outlined briefly.

### Content addresses the following critical questions

- What is the health issue that impacted George Washington or those around him?
- How does Washington's experience with the health issue inform you about medical care in his time?
- What information do we have about the same health issue today?
- How is the treatment of then and today similar or different?
- How does the change from then to now affect your life today?

### Conclusion

- Main idea or argument is restated, but worded differently from the Introduction.
- Main points are summarized in a paragraph.
- The significance of your topic is included—for example, why should people care?

### Bibliography

- All sources are listed in correct format and in alphabetical order.





## Unexpected Illness Questionnaire

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1. Is this a primary or secondary source? \_\_\_\_\_
2. How many years after Washington's death on December 14, 1799 was this memoir written? \_\_\_\_\_
3. Who is the author and why did he write this memoir? From what perspective does the author write the memoir?
4. What did George Washington do the day before his illness? What symptoms did he first experience?
5. How does Dr. Jackson describe Washington's illness? Which does he consider his worst symptom? Give evidence.
6. What are the treatments that Washington received? What is Dr. Jackson's opinion on the treatments in 1799 in comparison to his own time (1860)?
7. In the Memoir, what is Dr. Jackson's final diagnosis? \_\_\_\_\_ Next, take a look at "*The Household Physician*" and read page 207 in the book (<https://collections.nlm.nih.gov/bookviewer?PID.nlm:nlmuid-101516958-bk>). Conduct research on *MedlinePlus* (<https://www.medlineplus.gov/>) and write or illustrate summaries of laryngitis and epiglottitis, and how the two are diagnosed and treated today.

## Teacher's Unexpected Illness Questionnaire

1. Is this a primary or secondary source? Primary Source
2. How many years after Washington's death on December 14, 1799 was this memoir written? 61 years
3. Who is the author and why did he write this memoir? From what perspective does the author write the memoir?  
*It was written by Doctor James Jackson. The memoir was written at the request of Mr. Everett to describe the death of George Washington. As a physician, Jackson brings medical perspective in reviewing the details related to Washington's fatal illness. In the Memoir, Jackson is able to provide medical analysis of Washington's illness and the treatment he received.*
4. What did George Washington do the day before his illness? What symptoms did he first experience?  
*On that day, George Washington was out on his farm on horseback from 10am to 3pm in very bad rain, hail, snow fall, and cold wind. The next day he had a sore throat and thought to have a slight cold. That night he awoke with difficulty breathing, speaking, and swallowing.*
5. How does Dr. Jackson describe Washington's illness? Which does he consider his worst symptom? Give evidence.  
*Answers may vary. George Washington's worst symptom was his breathing. It caused him great pain to breathe and swallow. His strongest efforts to breath did not supply sufficient air to his lungs. "He was in fact strangled by the closure of the windpipe, as much as if a tight cord had been twisted around his neck." (Page 8)*
6. What are the treatments that Washington received? What is Dr. Jackson's opinion on the treatments in 1799 in comparison to his own time (1860)?  
*Dr. Jackson mentions various treatments such as blistering, the use of antimony and opium to the calomel, or other preparations of mercury (page 19, 28). He primarily discusses the common practice of bloodletting as treatment for George Washington's illness in 18th century. He also notes how new medical knowledge in his time would have treated Washington by making an opening to the trachea to allow breathing (page 30).*
7. In the Memoir, what is Dr. Jackson's final diagnosis? acute laryngitis Next, take a look at "The Household Physician" and read page 207 in the book (<https://collections.nlm.nih.gov/bookviewer?PID.nlm:nlmuid-101516958-bk>). Conduct research on MedlinePlus (<https://www.medlineplus.gov/>) and write or illustrate summaries of laryngitis and epiglottitis, and how the two are diagnosed and treated today.  
*Encourage students to explore what the medical profession knows today about both acute laryngitis and epiglottitis. Students interested in health, medicine, and science may research the symptoms of his illness to write persuasively. Teachers can refer students to the following websites to explore the definition, causes, symptoms, tests, and treatments of the two diagnoses.*
  - Laryngitis (<https://medlineplus.gov/ency/article/001385.htm>)
  - Epiglottitis (<https://medlineplus.gov/ency/imagepages/19595.htm>)
  - Epiglottitis (<https://medlineplus.gov/ency/article/000605.htm>)
  - Throat Disorders (<https://medlineplus.gov/throatdisorders.html>)
  - Throat Anatomy (<https://medlineplus.gov/ency/imagepages/1118.htm>)