



# Usher Parsons (1788–1868) and His 19th-Century Understanding and Surgical Treatment of Spinal Curvatures

Gabrielle G. Tardieu<sup>1</sup>, Nitsa Topale<sup>1</sup>, Erfanul Saker<sup>1</sup>, Marios Loukas<sup>1</sup>, Rod J. Oskouian<sup>2</sup>, R. Shane Tubbs<sup>3</sup>

## Key words

- Historical aspects
- Pathology
- Surgery
- United States
- Vertebral column

From the <sup>1</sup>Department of Anatomical Sciences, St. George's University, Grenada, West Indies; <sup>2</sup>Swedish Neuroscience Institute, Swedish Medical Center, Seattle, Washington; and <sup>3</sup>Seattle Science Foundation, Seattle, Washington, USA

To whom correspondence should be addressed:  
Gabrielle G. Tardieu, M.D.  
[E-mail: [gtardieu@sgu.edu](mailto:gtardieu@sgu.edu)]

Citation: *World Neurosurg.* (2017) 102:329-333.  
<http://dx.doi.org/10.1016/j.wneu.2017.02.015>

Journal homepage: [www.WORLDNEUROSURGERY.org](http://www.WORLDNEUROSURGERY.org)

Available online: [www.sciencedirect.com](http://www.sciencedirect.com)

1878-8750/\$ - see front matter © 2017 Elsevier Inc. All rights reserved.

## BACKGROUND

Usher Parsons (Figure 1) was born on August 18, 1788, in Alfred, Maine. He was the youngest of nine children born to William and Abigail Parsons.<sup>1-3</sup> He received minimal formal education but entered the field of medicine, studying under doctors in Maine, and Boston, Massachusetts.<sup>1-3</sup> In 1812, the Massachusetts Medical Society granted Parsons his medical license to practice,<sup>1,4</sup> and he attained a position as naval surgeon's mate at the onset of the war.<sup>2,3</sup> In 1813, he was appointed surgeon to a small fleet under Commodore Oliver Hazard Perry in the Battle of Lake Erie, where he acquired additional surgical skills<sup>1,2</sup> while commanding and caring for the sick among the crews of the various vessels.<sup>3</sup> As the sole surgeon charged with care for the wounded at the Battle of Lake Erie on September 10, Parsons's dedication and accomplishments in the history of military surgery.<sup>1-5</sup> His devotion and excellent performance were commemorated in a statement by Commodore Perry in a letter to the Secretary of the Navy:

Usher Parsons was a prominent surgeon in the 19th century. However, his contributions to the understanding and treatment of spinal curvatures have been largely forgotten. Herein, we review Parsons' theories, understanding, and treatment strategies for treating abnormal spinal curvatures. This glimpse into history offers insight into the thought processes and surgical strategies that were available in the early 19th century. It is pioneers in this field, such as Usher Parsons, on which our current understanding of spinal curvatures and its treatment is built.

Of Dr. Usher Parsons, surgeon's mate, I cannot say too much. In consequence of the disability of both the other surgeons, Drs. Horsley and Barton, the whole duty of operating, dressing, and attending near a hundred wounded and as many sick devolved on him; and it must be pleasing to you, sir, to reflect, that of the whole number wounded, only three have died. I can only say that, in the event of my having another command, I should consider myself fortunate in having him with me as a surgeon.<sup>3</sup>

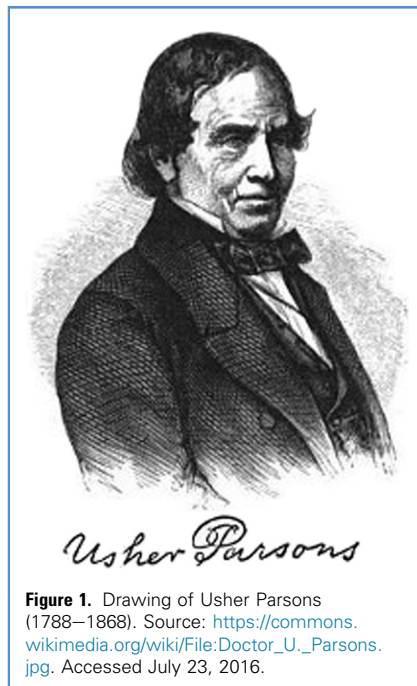
In 1814, Parsons was promoted to the rank of surgeon.<sup>3,4</sup> From 1814 to 1816, he continued to serve under the command of Perry after the war ended, on the frigate *Java*.<sup>2-4</sup> In 1818, after taking part in a series of lectures, Parsons obtained his medical degree from Harvard University and thereafter continued his naval duties as surgeon on the frigate *Guerriere* until 1820.<sup>1-4</sup> He was then appointed Professor of Surgery and Anatomy at Dartmouth College, where he taught for 1 year.<sup>1,3,4</sup> In that same year, he published a handbook on medicine at sea, entitled *Sailor's Physician*, which was used on merchant vessels as a reference.<sup>1</sup> In 1822, Parsons established permanent residence in Providence, Rhode Island; shortly afterward, he married Mary Jackson Holmes (1802–1825) of Cambridge, older sister of the distinguished poet Oliver

Wendell Holmes.<sup>1-5</sup> Charles W. Parsons (1823–1893) was their only child; he also became a physician.<sup>1-3</sup> In 1823, Parsons was appointed Professor of Anatomy and Surgery at Brown University, where he held this position until 1828.<sup>1-5</sup> In 1837, he became the first President of the Rhode Island Natural History Society,<sup>2,3</sup> and he served in this capacity from 1837 to 1839. Four years after 1847, he served as a representative from Rhode Island at the American Medical Association, and in 1853, he was chosen as its first Vice President.<sup>3,5</sup> In 1854, while the President was absent, he took on the role of President for a short time.<sup>2,3</sup> At this time, he was the primary founder in the establishment of Rhode Island Hospital.<sup>1,3,5</sup> In 1861, he was appointed Surgeon of the Providence Horse Guards.<sup>3</sup> On December 19, 1868, he died in Providence at the age of 81 years.<sup>3</sup>

## CONTRIBUTIONS TO TREATMENT OF DIFFERENT FORMS OF SPINAL CURVATURE

Usher Parsons's *On Spinal Diseases* describes the different forms of spinal curvature and their treatment (Figure 2). This following review draws from this more or less forgotten text published in 1842.

In his text, Parsons states that the rates of this spinal disease are greater among people of higher socioeconomic status—those in “easy circumstances”<sup>6</sup>—including those who live secluded and sedentary



**Figure 1.** Drawing of Usher Parsons (1788–1868). Source: [https://commons.wikimedia.org/wiki/File:Doctor\\_U.\\_Parsons.jpg](https://commons.wikimedia.org/wiki/File:Doctor_U._Parsons.jpg). Accessed July 23, 2016.

lives. Parsons mentions boarding schools as having the highest number of cases. This was said to be due to the type of clothing, especially clothing worn from a young age such as corsets, which caused almost a quarter to have a deformed flexure of the spine. On the other hand, there were cases of this disease among females of lower socioeconomic status with occupations such as lace and dress makers, or among people who carried heavy loads in one hand or arm or shoulder. Hippocrates (460–377 BC), who first described abnormal lateral curvature of the spine and coined the term *scoliosis*, and Ambrose Paré (1510–1590), who was the first to describe congenital scoliosis, believed that the condition was due to poor posture.<sup>7,8</sup> Parsons also mentioned people with “depression of spirits”<sup>6</sup> who developed lateral curvature, most of which in his care were “caused or aggravated by deep affliction or disappointed affection.”<sup>6</sup> According to Elsaesser and Butler (2014),<sup>8</sup> lateral curvature of the spine was associated with “moral depravity,” and Richard III was used as an example.

Parsons noted that lateral curvature of the spine (now referred to as *scoliosis*) is often seen in the younger population (older than 24 years, frequently before 18

years of age), before the muscular frame is completely developed, and when the cartilage is “soft” and of “yielding nature.”<sup>6</sup> It is rarely observed after middle age, as the softness lessens with age. Parsons stated that a child often makes an effort to prevent the dress from falling off one shoulder. One shoulder or collarbone can be bigger or higher than the other, or parents believe that there is a swelling at the end of the false ribs that they think could be a tumor. Parsons states, “I have in several instances known parents, and even young physicians, to mistake a curvature between the shoulders for a tumor under the shoulder-blade, and curvature in the loins for hip-disease.”<sup>6</sup>

He found that the disease is less likely to be curable if it begins in early age, if it is present for 1–2 years, if there are symptoms of a diseased lung, if there are bent or twisted single ribs or ribs ossified together, if the spine is ankylosed, if the limbs are dislocated or of unequal length, or if there are strong symptoms of scrofula or rickets. In most cases, the bones are not diseased, despite the false findings seen after death and those caused by surgeons in earlier attempts at treatment. Parsons stated:

In fact, it is almost certain that the vertebrae, in cases of lateral curvature, are even less liable than more solid bones to be inflamed by the irritation caused by pressure; and the opinion formerly prevailing, that actual disease of the bone does exist in such curvatures, is without foundation; - an effect has been mistaken for a cause.<sup>6</sup>

Parsons believed that “relaxed” ligaments of the vertebrae can also contribute to the curvature, but a more important factor must be involved, and the muscles have a major part to play. The back muscles and those closely around the spinal column help the spinal column to stay in equilibrium, but this benefit is lost when the muscles on one side project a different force from the contralateral side. Thus, formation of a curve, in which the muscles with greater force are inserted into the convex side, results from a minor difference in the force of traction between the two sides. Parsons relates this effect to a

situation in which both sides of muscles have the same strength, but one side is used more than the other, and he lists many examples, including “when the pelvis is depressed on one side by lameness of the hip, knee, or ankle; or by shortness of one limb, in which nature accommodates herself by bending the spine, so that the patient can bring the foot to the ground.”<sup>6</sup>

Parsons agreed that the treatment of lateral curvature of the spine was highly varied. He stated:

One surgeon confines his patient rigorously to the same position for months; another requires certain violent exercise for years; a third rubs and shampoos; a fourth invests his patient with artificial collars, stays, etc.; a fifth attempts to replace bones alleged to be dislocated; a sixth stretches his patient on an inclined plane; a seventh pulls at head and feet, or at axilla and pelvis, with pulleys and sliding mattresses; an eighth lays them on a rolling bed; a ninth opposes the curves by what he calls sigmoid flexion and extension; a tenth leeches and blisters, or applies caustic and moxa, and many advise nothing at all.

Hippocrates’ recommended treatment for lateral curvature involved axial distraction on an extension apparatus is called the *Hippocratic board*.<sup>8</sup> Galen (AD 131–201), who described spinal deformity by coining the terms *scoliosis*, *kyphosis* and *lordosis*, experimented with many chest binders and jackets in an attempt to manage spinal curves. In addition, he suggested respiratory exercises and loud singing, believing that continual exercise of muscles of the rib cage may correct some of the thoracic distortion.<sup>6–8</sup> Parsons believed that treatment of lateral curvature of the spine involved separating certain muscles with their fascia and tendons, which, when in the contracted state, maintained a curvature despite the other means used to overcome it. He also reported that this operation was first used experimentally by M. Jules Guérin of Paris. His technique was to separate the back and loin muscles under tension, and sometimes to lengthen his incision

Download English Version:

<https://daneshyari.com/en/article/5634652>

Download Persian Version:

<https://daneshyari.com/article/5634652>

[Daneshyari.com](https://daneshyari.com)