

## Chapter 13

---

# Hydrotherapy and Pressure Ulcers

Chester H. Ho, MD, Monique Washington, RN, MS, CCRP and  
David T. Burke, MD, MA

### Chapter Objectives

- Through reading this chapter, the reader will learn the key aspects of wound management using hydrotherapy options.
- The reader will learn the techniques of immersion versus pulsatile lavage in wound management
- The reader will understand the rationale for optimal aquatic temperatures, treatment durations, water agitation and pressure
- The reader will review the contemporary research support for the use of hydrotherapy in wound management

Ever since the time of Hippocrates (460 to 370 BC), bathing has been used for healing.<sup>1</sup> Asclepiades (124 to 40 BC) was one of the ancient physicians who prescribed water as a treatment regimen and recommended regular bathing for therapy, and Galen (131 to 201 AD) introduced hydrotherapy for the treatment of a variety of specific diseases.<sup>2</sup> These physicians have had an influence on European civilization throughout history. Although bathing was discouraged in the Dark Ages, spas were established across Europe during the 16th and 17th centuries, the use of mineral waters became more prevalent, and resorts developed at various springs.<sup>3</sup> More recently, many physicians have addressed various beneficial aspects of hydrotherapy for ongoing wound management.

In current medical practice, hydrotherapy is widely used for a number of conditions, including the management of wound cleansing and debridement, pain and musculoskeletal conditions,<sup>4-7</sup> and the management of burns.<sup>8-11</sup> Hydrotherapy may also increase quality of life,<sup>12-13</sup> as well as decrease depression, of persons with fibromyalgia.<sup>14</sup> Hydrotherapy is commonly used for wound management in individuals suffering from pressure ulcers.

Pressure ulcers are a prevalent, expensive, and burdensome medical problem. Reports on the incidence of pressure ulcers vary from 15% in hemiplegic patients to as high as 60% in individuals with spinal cord injuries.<sup>15</sup> The cost of treatment ranges from \$2000 to \$30,000 per pressure ulcer in acute care settings.<sup>16</sup> Some have estimated that the cost of pressure ulcer treatment in all health care settings, including acute care facilities, nursing homes, and home health, may exceed \$10 billion annually.<sup>17</sup> Although the magnitude of this problem has long been recognized, it is interesting to note that, despite efforts, the Fifth National Pressure Ulcer