

## OCCASIONAL PIECE

## A brief history of spa therapy

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Bathing in thermal water has an impressive history and continuing popularity. In this paper a brief overview of the use of water in medicine over the centuries is given.

## NOMENCLATURE

The word “spa” may be derived from the Walloon word “espa” meaning fountain.<sup>1,2</sup> This, in turn, came from the name of the Belgian town Spa, where in the 14th century a curative, thermal spring was discovered. Spa may also originate from the Latin word “spagere” (to scatter, sprinkle, moisten) or may be an acronym of the Latin phrase “sanitas per aquas” (health through water).<sup>3</sup> In Britain, the word spa is still used, whereas in the rest of Europe the term “thermal waters” is preferred. Bathing in thermal water for therapeutic purposes has several descriptions (for example, taking the waters, balneotherapy, spa therapy, hydrotherapy), which will all be used throughout this paper, and are more or less interchangeable.

## ANCIENT GREECE AND THE ROMAN EMPIRE

Taking the waters used to be a popular treatment for a wide range of diseases in classical times. The Greeks preferred baths in fresh water from natural resources, although bathing in the sea (thalassotherapy) was also applied. Initially, bathing was confined to the more wealthy people in private baths, but soon public baths were opened. The baths were considered sacred places and were dedicated to several deities.<sup>2,4</sup>

In Homeric times, bathing was primarily used for cleansing and hygienic purposes. By the time of Hippocrates (460–370 BC), bathing was considered more than a simple hygienic measure; it was healthy and beneficial for most diseases.<sup>3</sup> Hippocrates proposed the hypothesis that the cause of all diseases lay in an imbalance of the bodily fluids. To regain the balance a change of habits and environment was advised, which included bathing, perspiration, walking, and massages.<sup>5</sup> The baths were often combined with sports and education, the precursors of the gymnasium.

Influenced by the Greeks, the Romans built their own thermal baths at mineral and thermal springs. A military presence was often the key to development of such a spa resort.<sup>3</sup> Spas served not only for recuperation of wounded soldiers but also as rest and recreation centres for healthy soldiers. In contrast with the Greeks, who took the waters after intensive physical exercises, the Romans considered the baths more important than the gymnastics alone.<sup>4</sup> Besides cleansing, exercises, socialising, relaxation, and worship, medical treatment was also applied extensively. Spa treatment consisted of application of water to afflicted parts of the body, immersion of the whole body in the water (especially for rheumatic and urogenital diseases), and drinking excessive quantities of water.<sup>3</sup>

Asclepiades (c 124 BC), a Greek physician who practised in Rome, introduced general hydrotherapy and drinking cures as treatments.<sup>3</sup> He recommended bathing for both therapeutic and preventative purposes. Pliny the Elder (AD 23–79) assigned

different properties and indications for cure to different types of waters.<sup>3,6</sup> Galen (AD 131–201) also advocated the use of water for the treatment of a variety of diseases.<sup>6</sup> He preferred cold water, a concept that was reconsidered periodically throughout the following ages.

In Rome three different types of baths developed: baths at home (balnea), private baths (balnea privata), and public baths (balnea publica) that were run by the state.<sup>4</sup> With the introduction of aqueducts, the public baths later developed into huge and impressive edifices (thermae) with a capacity for thousands of people. During the heyday of the Roman bathing culture, the inhabitants of Rome used 1400 litres of water per person per day, mainly for bathing.<sup>2,5</sup> The Roman legions, far away from their homeland, built their own baths at mineral and thermal springs in the newly conquered lands.<sup>2,3</sup> Examples are found all over Europe.

Throughout the years the Roman bathing culture gradually changed towards a place for relaxation and pleasure, rather than for medical treatment, although this was still provided. The Romans preferred to use the baths and very hot waters for renewing their appetites and thirst, and the baths became, rather, centres for various sexual practices.<sup>3,6</sup> Deterioration of morals became manifest, the hygienic and medical indications for bathing disappeared, and baths as a haunt for pleasure ruled.<sup>4</sup>

## THE DARK AND MIDDLE AGES

With the fall of the Roman Empire in 476 and the rise of Christianity, the bathing culture fell into disrepute and bathing was officially prohibited. Faith in cure through worship and praying was regarded as more important than a medicinal bath.<sup>5</sup> Baths were redeveloped as churches, although some remained available for the aristocrats who were not affected by the church's decrees.<sup>6</sup> The aversion to bathing remained for many centuries. People abstained from bathing as long as possible, sometimes for years.

“People abstained from bathing, sometimes for years”

From the 13th century onwards, baths gradually came into re-use, particularly in southern Europe under the influence of the Moors. Public baths were rebuilt and the entrance was usually free. The baths were often crowded and people bathed for hours, sometimes days in the same bath. Blood letting, enemas, and drinking cures (up to 10 litres a day) were prescribed, although relaxation and pleasure were most often the reasons for bathing.<sup>5</sup>

## RENAISSANCE

In the 16th century the image of the public baths again deteriorated in many countries, which led to the closure of many public baths. They were considered to be a source of contagious diseases such as syphilis, plague, and leprosy, and the baths became dangerous meeting places for political and religious dissidents.<sup>5</sup> In addition, owing to a shortage of firewood, public baths became more expensive for a population that had already become impoverished by many wars.

Nevertheless, the gentry continued to visit the baths, although they preferred to go to baths from natural sources with warm, mineral water instead of the public baths.

Taking the waters was now no longer a spontaneous activity, but it was increasingly prescribed under medical direction.<sup>7</sup> Several famous Italian doctors recovered lost texts on medical treatment from the ancient world, and the value of balneology as a therapeutic modality was reconsidered.<sup>8</sup> By this time, the first attempts to analyse the waters for their mineral components were made, although the results were often controversial.<sup>8</sup> It was equally important to recognise the quality of each mineral and its effect on the body, as to know which parts of the body might be influenced by taking the waters.<sup>8</sup> In 1553 an encyclopaedic work, *De balneis omniae qua extant*, was published, containing an overview of ancient and modern literature on the use of medicinal water. In 1571, Bacci published *De thermis*, in which he taught the art of the baths from Galen and the Aristotelians. According to Bacci, taking the waters was not a matter of empiricism, but a sound discipline with its own rationale, institutes, and doctrine, which the learned physician alone was qualified to understand.<sup>8</sup> Minardo published in 1594 a compendium on the two baths of Caldiero in Verona. The first bath was used for drinking and bathing, the second was used by bathers with skin conditions, for bathing of animals, and for washing off therapeutic mud.<sup>8</sup> Seventy eight conditions that might benefit from these baths were listed. The treatments consisted of drinking cures, bathing, purging, and application of mud. It was advised to follow this type of treatment for 15 days, and repeat it every year. According to Bacci, essential to the cure was a quiet orderly life in pleasant surroundings with good food and wine, and a maximum of comfort.<sup>8</sup> Therefore, he argued, the baths would do no good to the poor. Other, practical obstacles also restrained the poor from attending the baths: they had no time for leisure and the baths and mud were usually not free.<sup>3, 8</sup>

The new bathing culture that had developed in Italy gradually spread over other parts of Europe, and was particularly popular with the elite. The development of spa treatment north of the Alps was mainly provided by the Paracelsians.<sup>9</sup> By the turn of the 17th century, many spas were rediscovered in France. Two types of spas existed: hot springs for drinking and bathing, and cold springs for drinking cures only.<sup>9</sup> Taking the waters in French spas was a serious activity and quite sober. Doctors created centres for treatment, not for leisure. Much attention was paid to purging, drinking cures, eating well balanced diets, and bathing. In the afternoons some indoor leisure activities were provided. Late in the afternoon, people walked about on the promenade, and went to bed early in the evening.<sup>9</sup> This was in contrast with many other European countries, where in the evenings diverse leisure activities were offered such as theatre and dance.

### 19TH AND 20TH CENTURIES

Around 1800 interest in the bathing culture grew. Further attempts to analyse the mineral water were made, aiming at improving its use in medicine, and at preparing mixtures of water identical to those mineral waters famous for their curative properties.<sup>10</sup> Doctors were convinced that for each disease Mother Nature possessed an appropriate medicinal spring, which could be discovered through chemical analysis of the waters.<sup>7</sup> Priessnitz and Kneipp further developed the principles of balneotherapy (medicinal use of thermal water) and hydrotherapy (immersion of the body in thermal water for therapeutic purposes).<sup>5, 11</sup> Individual treatments were prescribed, based on the composition and temperature of the water. Also, combinations of treatments were developed consisting of hot and cold baths, herbal baths, mud packs, active physical exercises, massages, and diets. Kneipp advocated a holistic approach to the treatment of a disease.<sup>11</sup> In

contrast with the spa resorts, which aimed at the elite, Kneipp directed his attentions to the common man.<sup>5</sup>

The use of mineral waters and the development of hotels and guesthouses at the springs became prevalent throughout Europe and North America.<sup>6, 12</sup> Every spa resort had its own theatre, casino, and promenades besides the bathing buildings. In Britain, Germany, Austria, and Belgium much importance was attached to ostentation. Grand hotels arose with casinos and dancing establishments surrounding the spa resorts. The spa resorts became not only a meeting centre for the elite but also a place of creativity for painters, writers, and composers.<sup>2</sup> The baths were again crowded. Baden Baden (Germany) became the most glamorous resort in continental Europe. It was the place to see and to be seen.<sup>2</sup>

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However, in Britain use of the spa declined. The English spa resorts were run by amateurs, and the medical hydrology was poorly organised.<sup>13, 14</sup> The resorts aimed more at pleasure, rather than medical treatment, and were exploited by estate developers with commercial interests.<sup>14</sup> Competition from seaside and foreign resorts, and an economic depression in the 1930s led to a further decline. Eventually, spa therapy was excluded from the National Health Service, which meant that many spa resorts in Britain closed down.<sup>13</sup>

After the second world war and with the rise in welfare, spa treatment became available for the common man in many European countries, mainly owing to reimbursement by state medical systems.<sup>2, 5, 15</sup> Other activities and new treatments were introduced, and balneology, hydrotherapy, and physiotherapy underwent major developments.

In the past decades, a large change in the use of mineral water for the treatment of several diseases has taken place in continental Europe.<sup>6</sup> The medical significance of bathing is now acknowledged, especially by many rheumatologists and dermatologists, and this aspect is considered more important for a number of spa resorts than prestige and leisure. Bathing is usually combined with many other treatments, such as physical exercises, hydrotherapy, and mud packs. The spa resorts are differentiated according to their location (for example, seaside, mountain area) and the chemical composition of their mineral water (for example, sulphurous, bicarbonated, or sulphated).<sup>16-18</sup> Each spring has its own characteristics and related therapeutic properties.<sup>17</sup> However, a substantial number of spa resorts also direct more attention towards leisure. Steam baths, saunas, whirlpools, and solariums are standard equipment of many such spa resorts, with the main objective being to relax and strengthen the body and mind, and to prevent development of disease. In Britain, a revival of the spa culture may be expected, with the re-opening of the hot springs in Bath in 2002. This spa will offer facilities for medical treatment, but, in addition cater for a growing number of so-called health tourists, who combine their holidays with an investment in wellbeing.

### SCIENTIFIC EVIDENCE FOR THE EFFICACY OF SPA THERAPY

Despite the popularity of spa therapy, reported scientific evidence for its efficacy is sparse. A decade ago, Heywood reviewed well documented records on spa treatment for lead poisoning in the 18th and 19th century in Bath.<sup>19</sup> Paralysis occurring as a result of chronic lead intoxication (colica pictonum) was a common problem in those days owing to the widespread use of lead in household ware, cosmetics, food colorants, wine, and salts for medicinal use. Already at the beginning of the 16th century, Bath was famous for curing paralysis, even in those patients who were regarded as incurable. The treatment consisted of bathing, drinking cures, diet,

and purges. Patients admitted to the Bath Hospital came from all over England, and often had already been treated for their paralysis elsewhere, without success. However, many of these presumed incurable patients were cured after their (months) stay in Bath.

An example can be found in the comparison of medical records of Bath and Exeter Hospitals between 1762 and 1767.<sup>19</sup> During these five years, 285 patients with colica pictonum were admitted in Exeter and 281 patients in Bath. Seventy three per cent of the patients from Exeter were cured or improved, whereas the figure was 93% from Bath. Moreover, the group in Bath included some 80 patients referred from Exeter who had not been cured by treatment in Exeter.<sup>19</sup> From 1760 to 1879, 3377 patients were admitted in Bath for paralysis due to lead intoxication. Forty five per cent were cured and 93% had at least improved.<sup>19</sup>

The high cure rates for paralysis by spa therapy in Bath may be attributed to several factors. Sitting in warm water produces diuresis, with increased excretion of sodium, potassium, calcium, and also lead.<sup>19,20</sup> Also the good food, exercises, removal from the source of lead, and the large quantities of water rich in calcium and iron contributed to the success of spa therapy in Bath.<sup>19</sup>

In the past decade several randomised controlled trials have studied the effects of spa therapy in rheumatoid arthritis<sup>21–26</sup> and osteoarthritis.<sup>23,27–30</sup> Patients were randomly allocated to receive spa therapy or sham/no therapy. The authors of a recent systematic review on the effects of spa therapy in rheumatoid arthritis and osteoarthritis stated that a definite judgment about its efficacy is impossible because of methodological flaws in these studies.<sup>31</sup> Overall, the results showed positive effects lasting for three to nine months. Recently, a randomised controlled trial has shown that spa therapy is clearly effective in ankylosing spondylitis.<sup>32</sup> Two intervention groups followed a three week course of spa therapy at two different spa resorts, and were compared with a control group who stayed at home and continued standard treatment consisting of anti-inflammatory drugs and weekly group physical therapy. Significant improvements in function, pain, global wellbeing, and morning stiffness were found for both intervention groups until nine months after spa therapy.<sup>32</sup>

## CONCLUSION

Throughout the ages the interest in the use of water in medicine has fluctuated from century to century and from nation to nation. The (medical) world has viewed it with different opinions, from very enthusiastic to extremely critical, and from beneficial to harmful. Today, spa therapy is receiving renewed attention from many medical specialties and health tourists, and having a revival. However, the exact therapeutic potential of spa therapy still remains largely unknown. Better and more profound scientific evidence for its efficacy is therefore warranted, in particular for its effects on the musculoskeletal system.

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