



## **The healing waters of Ischia, Italy**

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For more than two millennia, the thermal waters of Ischia—a 46-square-kilometer volcanic island in the Gulf of Naples—have been known for their extraordinary healing properties. Here, waters issuing from more than a hundred springs are able to ameliorate ailments such as rheumatism, arthritis, osteoporosis, sciatica and a host of respiratory illnesses, allergies and skin conditions.

The first inhabitants of the island, the Greeks, settled here in the 8th c. B.C. and quickly noted the beneficial effects of these piping hot waters. Not surprisingly, temples and shrines were erected around the springs dedicated to not only Aphrodite, the goddess of beauty and love, but to Apollo, a god with deep associations with health and healing. Apollo was known by a number of epithets, including Akesios, from the Greek word for “healing,” which may have in part inspired the island’s current name.

Although long attributed to divine machinations, Ischia’s pharmacological bounty is a byproduct of the island’s violent birth and ongoing seismic activity. Emanating from underground reservoirs fed by rainwater, the waters are warmed by heat sources located deep within the Earth. The waters are transformed into steam, which rises to the surface, enriched along its journey by the minerals contained in the soil. As a result, the waters gushing out are alkaline or acidic and contain varying amounts of calcium, magnesium, hydrogen carbonate, sodium, sulfur, iodine, chlorine, iron, potassium and microelements of other active substances, including radon. It is the disparate chemical composition of the sediments through which the steam and thermal waters make their way that dictates their healing properties.

Ischia’s water is rich in noble elements and mineral salts: sodium, one of the basic elements for the vital activity of living beings, potassium, essential for muscle dynamics, sulfur, essential for joint elasticity and calcium, which has a sedative action on the nervous system. The radioactive nature of the waters was discovered in 1918, when Marie Curie came to Ischia with fellow scientists to study the thermal springs. She determined that the waters bore various components of radium, radon, thorium, uranium, and actinium. The most important therapeutic element is radon, a gas dissolved in the water originating from an alpha particle emanated by an atom of radium. The radioactivity is so low that it is not harmful, a sheet of paper is enough to stop it, and it has a short half-life so it isn’t able to bio-accumulate.

Ongoing research in the field of medical geology is proving that the thermal waters and muds of Ischia are indeed efficacious for a variety of medical conditions and doctors are testing therapies and dosages to determine the best protocol to treat diverse ailments. Slowly, the results of international research are making their way into medical journals so that remedies the ancients used are being rediscovered and are helping to alleviate illness in modern society.