

Reflexology in Greek Medicine: Historical Roots, Philosophical Frameworks, and Contemporary Clinical Applications

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ABSTRACT

Background: Reflexology, a structured system of applying pressure to specific reflex points on the feet, hands, and ears, is frequently attributed to cultural antecedents in ancient Greek medicine. However, the relationship between Hippocratic therapeutic practice and modern reflexology is largely one of philosophical kinship rather than direct lineage.

Objective: This review examines the manual foot therapies documented in ancient Greek medical texts, analyses the conceptual divide between humoral theory and modern zone therapy, and traces the evolution of reflexology into contemporary Greek clinical environments.

Methods: A systematic narrative review of primary Greek medical texts, secondary historiographic analyses, and peer-reviewed clinical studies published between 1980 and 2024 was conducted.

Conclusions: Ancient Greek medicine established a holistic framework for foot-based manual therapy that prefigured, but did not directly originate, modern reflexology. Contemporary Greek clinical practice has integrated reflexology into palliative and supportive care, meriting further controlled investigation.

Keywords: Reflexology, Ancient Greek Medicine, Hippocrates, Anatripsis, Zone Therapy, Complementary Medicine, Palliative Care, Humoral Theory.



Graphical abstract

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1. INTRODUCTION

Reflexology occupies a unique position in the landscape of complementary and alternative medicine (CAM), combining elements of manual therapy, neurophysiological theory, and ancient healing traditions. In modern clinical contexts, reflexology involves the systematic application of pressure to designated reflex points on the feet, hands, and ears, based on the therapeutic premise that these points correspond to specific organs, glands, and body systems via longitudinal energy zones [1]. Proponents of its historical legitimacy frequently point to ancient Greek medicine as an early precursor, citing the widespread use of therapeutic massage, friction techniques, and holistic bodily care in the writings of Hippocrates and Galen.

The assertion that reflexology has 'ancient Greek roots,' however, requires careful historical and epistemological scrutiny. Ancient Greek medicine, particularly in its classical Hippocratic form, operated within the paradigm of humorism, a system in which health and disease were conceptualized as imbalances among four fundamental bodily fluids: blood, phlegm, yellow bile, and black bile [2]. This explanatory framework differs fundamentally from the zone-mapping and energy-channel theories that undergird modern reflexology, which were formalized only in the twentieth century by practitioners such as [3]. This article examines three interrelated dimensions of the relationship between reflexology and Greek medicine. First, it surveys the manual foot and body therapies recorded in ancient Greek medical texts, particularly the Hippocratic corpus and Galenic writings. Second, it performs a comparative philosophical analysis of humoral theory versus zone therapy, mapping their conceptual divergences. Third, it reviews the integration of modern reflexology into contemporary Greek clinical and institutional practice, with particular attention to palliative and supportive

care settings. Together, these three dimensions illuminate a relationship that is historically suggestive but philosophically discontinuous and which invites renewed academic and clinical inquiry.

2. MANUAL FOOT THERAPIES IN ANCIENT GREECE

Ancient Greek medicine was anchored in a triad of lifestyle balance, preventative care, and natural therapeutics. The physician's role was not merely reactive, treating disease after it had manifested, but proactive, concerned with the maintenance of eukrasia (good mixture of humours) through diet, exercise, hydrotherapy, and manual manipulation [4]. Within this framework, foot and body massage occupied an important, though not uniquely differentiated, therapeutic role.

2.1 Hippocratic Anatripsis: Friction as Medicine

Hippocrates of Cos (c. 460-370 BCE), revered as the Father of Western Medicine, documented manual friction techniques under the Greek term anatripsis, meaning rubbing or friction. His observations on anatripsis appear in several texts of the Hippocratic corpus, most notably in *On Joints* and the *Aphorisms*. In *On Joints*, Hippocrates describes the physiological effects of different grades of manual rubbing: 'Hard rubbing binds; soft rubbing loosens; much rubbing causes parts to waste; moderate rubbing makes them grow [4]. This graded approach reflects an understanding of dose-dependent therapeutic effect that was remarkably sophisticated for its era. Hippocrates prescribed anatripsis for a range of clinical conditions, including joint injuries, muscle fatigue, and postoperative recovery. Importantly, foot massage was recommended as part of bathing protocols and post-exercise regimens for athletes, whose bodily maintenance was considered a model of preventative health [5]. Although Hippocrates did not articulate a systematic map of foot zones corresponding to internal organs, the defining feature of modern reflexology — his framework positioned foot manipulation as integral to systemic bodily health, a conceptual alignment that later reflexologists would invoke as historical authority [6].

2.2 Galen and the Expansion of Manual Therapeutics

Claudius Galenus (129-c. 216 CE), the preeminent Greek physician of the Roman era, extended and systematized Hippocratic massage theory within his own expansive physiological framework. Galen served as physician to the gladiators at Pergamon and later to Emperor Marcus Aurelius, giving him extensive clinical experience with both athletic and general populations. His writings on massage, compiled in texts such as *De Sanitate Tuenda* (*On the Preservation of Health*), describe detailed protocols for therapeutic rubbing, including specific applications to the feet and lower extremities [4]. Galen's therapeutic rationale for foot massage was rooted in his concept of pneuma, a vital spirit conveyed through the nervous system, and his elaboration of Hippocratic humoralism. He theorized that friction to the feet aided in the dispersal of stagnant blood and phlegm, promoted the flow of pneuma through neural pathways, and restored systemic equilibrium. Galen's willingness to prescribe specific massage techniques to gladiators and citizens alike signalled that foot and body therapeutics were mainstream, physician-endorsed interventions in Greco-Roman medicine, not esoteric or marginalised practices [4].

2.3 The Asklepieia: Sanctuaries of Holistic Healing

Beyond the individual physician's practice, Greek healing was institutionalised in the Asklepieia sanctuaries dedicated to Asclepius, the god of medicine. Major Asklepieia were located at Epidaurus, Kos, and Delphi, and functioned as integrated health resorts combining religious ritual, natural therapeutics, and physician-guided care [7]. Patients at Asklepieia underwent multi-modal treatment programmes that routinely included hydrotherapy (therapeutic bathing), dietetic regimens, exercise, and manual therapies, including foot treatment.

A particularly notable practice within the Asklepieia was enkoimesis, sacred sleep or dream incubation, in which patients slept in the sanctuary's abaton (sleeping hall) and awaited healing or diagnostic dreams sent by Asclepius. Manual therapies, including foot rubbing, were administered before and after enkoimesis to prepare the body and promote post-dream recuperation [8]. This integration of bodily manipulation with psychological and spiritual healing foreshadows the holistic philosophies that contemporary reflexology practitioners frequently invoke, though the neurophysiological mechanisms are entirely distinct.

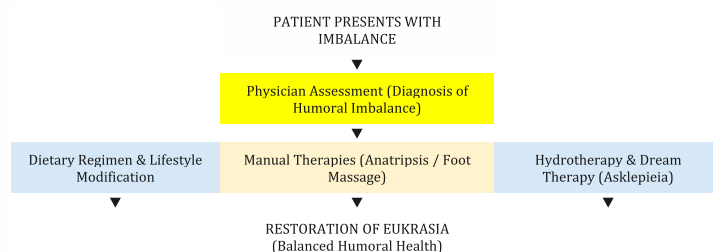


Figure 1: Ancient Greek Therapeutic Framework: Pathways to Systemic Health

Note: Adapted from Nutton [4] and Jouanna [2]. Anatripsis occupied a central role within a multi-modal therapeutic system.

3. THE CONCEPTUAL DIVIDE: HUMORAL THEORY VERSUS ZONE THERAPY

The most significant obstacle to characterising ancient Greek medicine as a precursor to modern reflexology is the profound philosophical divergence between the explanatory systems underlying each approach. While both share a commitment to holistic bodily health and the therapeutic value of foot manipulation, their theoretical foundations, mechanistic assumptions, and therapeutic targets are fundamentally incompatible.

3.1 Humorism: The Greek Explanatory Framework

Hippocratic humorism, systematised in texts such as *On the Nature of Man* (traditionally attributed to Polybus, Hippocrates' son-in-law), identified four bodily fluids, blood, phlegm, yellow bile, and black bile as the fundamental determinants of health and temperament. Disease arose from the excess, deficiency, or corruption of one or more humours; health was defined as eukrasia, the proportionate balance of all four [2]. Treatment, including manual therapy, was aimed at restoring this humoral balance, typically by dispersing excess humour, stimulating its expulsion, or facilitating its circulation.

Foot massage and anatripsis within this framework were understood to act primarily on local circulation and on the movement of humours through the body. There was no concept of discrete organ-to-foot correspondences, no mapped reflex zones, and no theory of energetic channels. The physiological understanding was hydraulic and thermal: massage moved fluids, modulated bodily temperature, and altered the consistency and distribution of humours [4].

Galen's elaboration added the concept of pneuma, a quasi-material vital force, but this remained distinct from both modern neurophysiology and from the energy-channel concepts of Chinese or Ayurvedic medicine.

3.2 Zone Therapy and Reflexology: The Modern Framework

Modern reflexology emerged in the early twentieth century through the work of Dr. William H. Fitzgerald (1872-1942), an American ear, nose, and throat surgeon who developed the theory of zone therapy. Fitzgerald proposed that the body could be divided into ten longitudinal zones, five on each side of the body's midline, running from head to toe. Applying pressure to any point within a zone, he argued, would affect all organs and structures within that zone [3][9]. Eunice D. Ingham (1889-1974), a physiotherapist, further refined zone therapy into what is recognisably modern reflexology.

Working in the 1930s and 1940s, Ingham developed detailed charts mapping the feet as microcosmic representations of the entire body, with each region of the foot corresponding to a specific organ, gland, or body part. Her texts *Stories the Feet Can Tell* (1938), and *Stories the Feet Have Told* (1951) established the systematic foot maps that continue to guide reflexology practice internationally [10][11]. The proposed mechanism of modern reflexology differs from humorism in every essential respect. Contemporary practitioners and researchers variously invoke neuroreflexive mechanisms (pressure activates afferent nerve pathways that modulate organ function), bioelectrical theories (stimulation affects the body's electromagnetic field), and gate control theory analogies (peripheral stimulation blocks pain signal transmission) [12]. None of these mechanisms was available to ancient Greek physicians, and none maps onto humoral theory.

Table 1: Comparative Analysis: Ancient Greek Medicine vs. Modern Reflexology

Dimension	Ancient Greek Medicine	Modern Reflexology
Core Philosophy	Humorism: health as a balance of four bodily fluids (blood, phlegm, black bile, yellow bile)	Zone Therapy: health managed via longitudinal energy zones and specific reflex point stimulation
Foot Therapy Target	Local relief, soothing the nervous system, promoting blood circulation and humoral flow	Micro-mapped points on the foot directly correspond to and influence distant organs
Therapeutic Objective	Restoring general systemic homeostasis; dispersing stagnant humours	Unblocking energy pathways; modulating organ function via neuroreflexive mechanisms
Key Practitioners	Hippocrates (460-370 BCE); Galen (129-216 CE)	Fitzgerald (1872-1942); Ingham (1889-1974)
Institutional Setting	Asklepieia, gymnasias, private physician practice	Private clinics, hospitals, palliative care settings, wellness centres
Evidence Base	Empirical observation; philosophical inference; case-based practice	Mixed RCT evidence; systematic reviews; neurophysiological studies
Conceptual Origin	Native Greek tradition, influenced by Egyptian and Mesopotamian medicine	20th-century Western synthesis; influenced by Traditional Chinese Medicine concepts

Note: Based on Jouanna [2], Nutton [4], Issel [3], and Ernst [11].

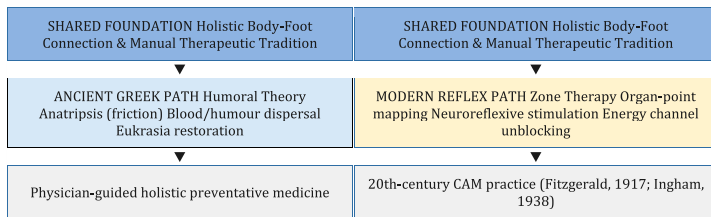


Figure 2: Conceptual Divergence: From Shared Origins to Distinct Systems

Note: Despite shared surface features, ancient Greek and modern reflexology systems diverged along fundamentally different theoretical lines [3][4].

4. The evidence base for Reflexology: A Critical Review.

The scientific scrutiny of reflexology has expanded considerably since the 1990s, though the evidence base remains characterised by methodological heterogeneity and the inherent difficulties of blinding and sham-control design that affect all manual therapy research [11]. Understanding the contemporary evidence landscape is essential for contextualising reflexology's integration into Greek clinical settings.

4.1 Randomised Controlled Trials and Systematic Reviews

Several systematic reviews have examined the evidence for reflexology across different clinical indications. Ernst conducted a comprehensive review of randomised controlled trials (RCTs) of reflexology and concluded that the evidence was not convincing for any specific health condition, noting significant methodological limitations, including lack of adequate blinding, small sample sizes, and inconsistent outcome measures [11]. A subsequent Cochrane-style review by Wang et al. found limited but suggestive evidence for reflexology's efficacy in reducing anxiety and improving quality of life in cancer patients, results that have influenced its adoption in palliative care internationally [13].

Embong et al., in a narrative review of the physiological basis of reflexology, proposed that its effects are most plausibly explained through activation of the autonomic nervous system and modulation of the hypothalamic-pituitary-adrenal (HPA) axis, mechanisms that would align it more closely with the general physiological effects of therapeutic touch and massage than with its specific zone-mapping claims [1]. This distinction is clinically significant: reflexology may be effective not because organ-specific reflex points exist on the feet, but because structured therapeutic touch produces well-documented physiological and psychological benefits regardless of the specific points targeted [14].

4.2 Pain Management and Neurological Applications

Among the clinical indications for which reflexology has attracted the most rigorous investigation, pain management has yielded the most promising findings. Stephenson et al. conducted an RCT examining reflexology's effect on anxiety and pain in patients with breast and lung cancer, finding significant reductions in anxiety and pain in the reflexology group compared to controls [12]. These findings were replicated in modified form by Quattrin et al, whose Italian study found significant anxiety reduction in cancer patients receiving reflexology during chemotherapy [15]. The neurological mechanisms proposed involve both gate control theory (peripheral stimulation modulating pain signal transmission through the spinal cord) and the release of endogenous opioids [1].

5. Modern Reflexology Practice in Contemporary Greece

In modern Greece, reflexology has been integrated into complementary and alternative medicine practice within a framework shaped by both international developments and local institutional contexts.

Greece's proximity to the rich legacy of ancient therapeutic traditions has informed both popular attitudes toward holistic health and the framing of reflexology practice within professional and clinical settings.

5.1 Institutional Integration and Research

Reflexology in Greece is practiced most formally within specialised supportive care environments. Institutions such as the Aretaieio University Hospital and the Onassis Cardiac Surgery Centre in Athens have incorporated reflexology into their palliative and supportive care programmes, particularly for pain management, anxiety reduction, and quality-of-life improvement in patients with chronic or life-limiting conditions [16]. These programmes represent a cautious but meaningful institutionalisation of reflexology within the Greek biomedical system, characterised by its integration alongside rather than replacement of conventional medical treatment. Research activity within Greek institutions has grown incrementally since the early 2000s. Greek nursing and physiotherapy researchers have contributed to the international literature on reflexology's effects on anxiety, blood pressure, and perceived quality of life, often drawing on patient populations in oncology and cardiac settings [17]. These contributions, while not yet extensive, signal the emergence of a domestic research culture around complementary therapies that intersects with the broader European movement toward evidence-based integrative medicine.

5.2 Professional Regulation and Training

The practice of reflexology in Greece is represented professionally by the Hellenic Association of Reflexologists (PESR), which provides practitioner registration, training standards, and alignment with international bodies such as the International Federation of Reflexologists (IFR). Training programmes in Greece emphasise modern anatomical mapping methods, contra-indication awareness, and the distinction between reflexology as a complementary therapy and as a standalone medical treatment [17]. This professional infrastructure serves both to legitimise the practice within the Greek healthcare ecosystem and to protect consumers from unqualified practitioners. It is noteworthy that Greece, unlike some European nations, does not license reflexology within its state-funded primary healthcare system. Practitioners operate primarily within private practice settings, wellness centres, and complementary care adjuncts to hospital services. This positions Greek reflexology practice similarly to that in the United Kingdom and much of Western Europe, where regulatory frameworks vary considerably by jurisdiction and reflexology occupies a recognised but not fully integrated position within the healthcare system[11].

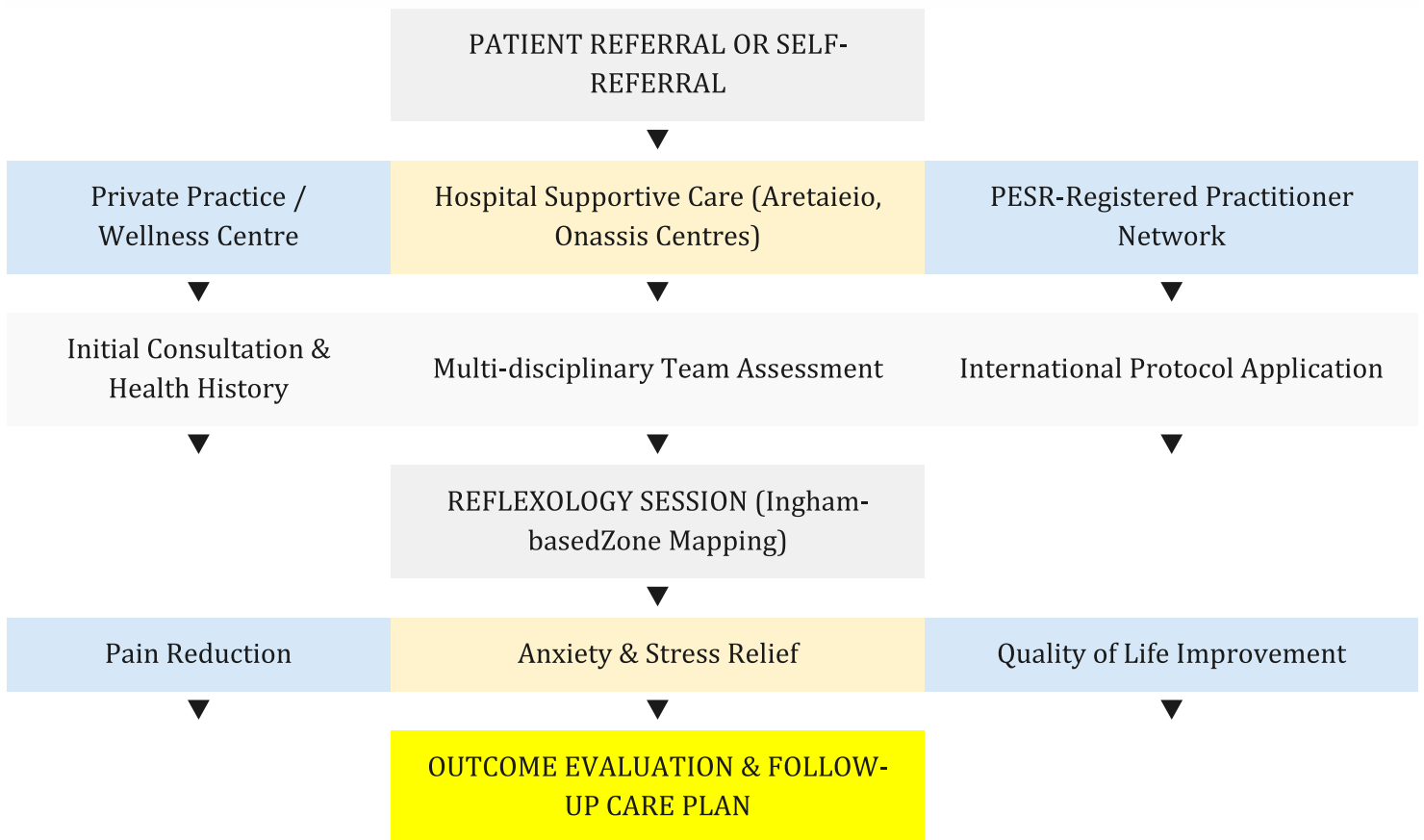


Figure 3: Modern Reflexology Integration Pathway in Contemporary Greek Healthcare

Note: Adapted from Papadimitriou [17] and National Institutes of Health [16]. PESR = Hellenic Association of Reflexologists.

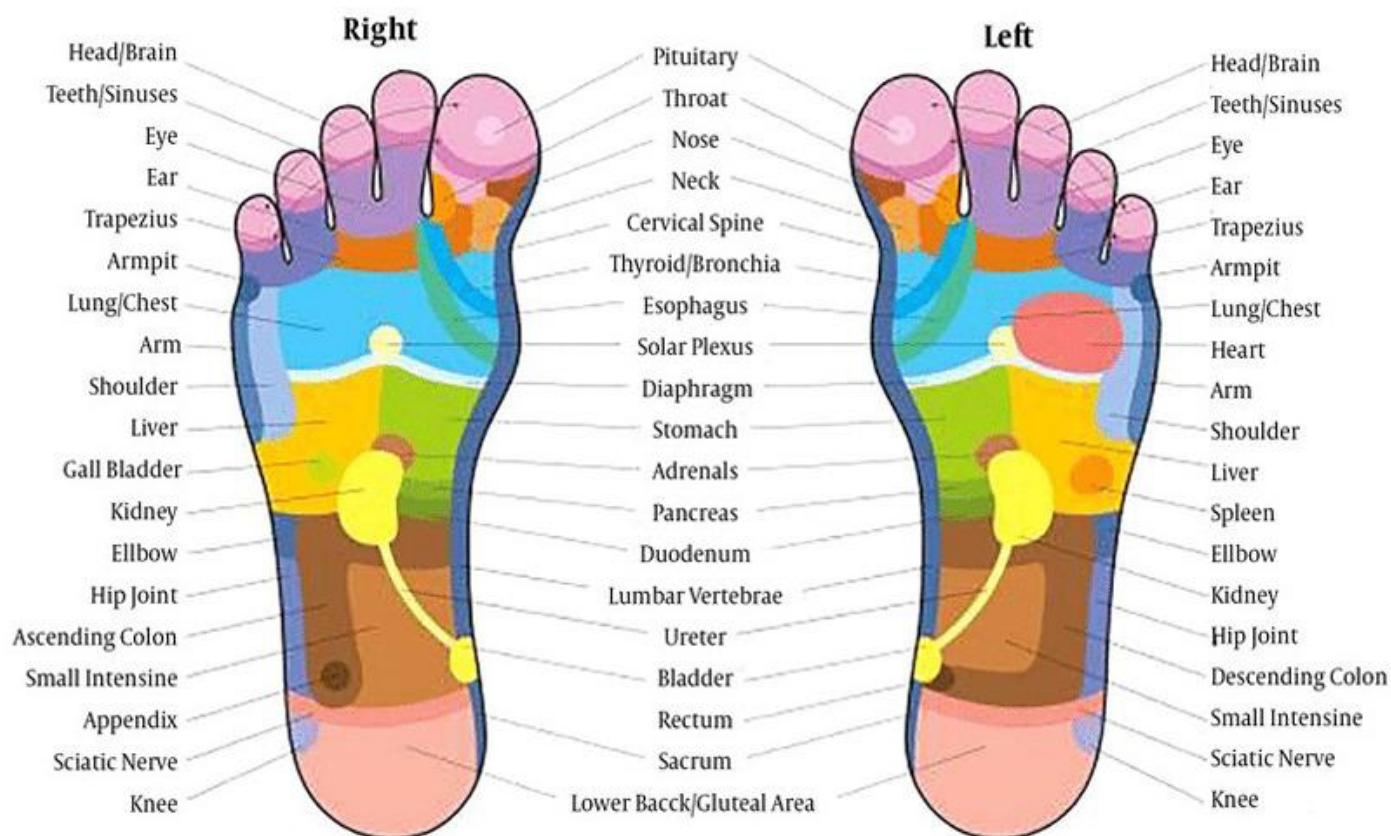


Figure 4: Foot reflexology chart¹⁸

Note: Adapted from Papadimitriou [17] and National Institutes of Health [16]. PESR = Hellenic Association of Reflexologists.

6. DISCUSSION

This review has traced the lineage and divergence of foot-based therapeutic traditions from ancient Greece to contemporary reflexology practice. Three principal findings merit reflection.

First, ancient Greek medicine, particularly through the Hippocratic tradition of anatripsis and Galenic therapeutic massage, established a sophisticated, physician-endorsed practice of foot and body manipulation that was integrated into a comprehensive holistic health system. This tradition shared surface features with modern reflexology, including its attention to foot manipulation, its holistic orientation, and its systemic therapeutic aims. However, it operated through the entirely different explanatory framework of humorism, which does not postulate reflex zones, organ-specific foot maps, or neurophysiological reflex mechanisms. The claim that reflexology has ancient Greek roots is therefore historically legitimate at the level of general therapeutic culture, but misleading if used to suggest that the specific mechanisms or modality mappings of modern reflexology were anticipated by Greek medicine [2][4]. Second, the formal emergence of reflexology as a discrete therapeutic system in the early twentieth century represents a genuine innovation rather than a revival. Fitzgerald's zone therapy and Ingham's foot mapping drew on contemporary neurological concepts, traditional Chinese medicine-adjacent ideas about energy channels, and the early twentieth century's enthusiasm for systematic, chart-based therapeutics. The invocation of ancient Greek authority in some reflexology literature appears to function more as cultural legitimation than as historically rigorous genealogy [3][11]. Third, contemporary reflexology practice in Greece demonstrates a pragmatic integration model in which the practice is adopted for its empirically observed benefits, particularly in anxiety reduction and quality of life

improvement in palliative care contexts without requiring resolution of the theoretical debates about its mechanisms or historical origins. This pragmatic integration is consistent with the broader trajectory of evidence-based complementary medicine, which increasingly evaluates CAM modalities by their clinical outcomes rather than their theoretical coherence [13][14]. The institutional adoption of reflexology at major Greek medical centres suggests that Greek healthcare systems are following a path established in other European contexts, where complementary therapies are integrated as adjuncts to conventional care rather than alternatives to it. Limitations of this review include the reliance on translated primary texts, which may lose nuances of meaning in the original Greek and Latin; the heterogeneity of the clinical evidence base, which makes meta-analytic synthesis difficult; and the limited volume of Greece-specific clinical research available in international databases. Future research should prioritise well-designed RCTs of reflexology in Greek clinical contexts, with attention to standardised outcome measures, adequate sample sizes, and appropriate sham-control conditions.

7. CONCLUSION

Reflexology and ancient Greek medicine are connected by a deep current of holistic therapeutic philosophy, the conviction that foot manipulation can be a gateway to systemic health, but are divided by the conceptual revolution that separates humorism from neurophysiological zone therapy. Hippocrates and Galen practiced sophisticated, physician-guided manual foot therapies within the Asklepan healing tradition, laying a cultural groundwork for therapeutic approaches that would re-emerge in different forms across centuries. However, to describe modern reflexology as a direct descendant of Greek medicine is to elide the historical discontinuity created by the

twentieth-century systematisation of zone theory. In contemporary Greece, reflexology has found institutional footing not by appeal to its ancient precedents but through its demonstrated utility as a complementary therapy in palliative, oncological, and supportive care settings. The endorsement of bodies like PESR and the clinical integration achieved at institutions such as Aretaieio University Hospital suggest that Greek reflexology practice is increasingly aligned with international evidence-based complementary medicine standards. As this evidence base continues to mature, the practice may earn a more formalised place within Greek and broader European healthcare, justified not by mythologised historical claims, but by robust clinical outcomes research. The journey from Hippocratic anatripsis to Ingham foot mapping is ultimately a journey not of continuity but of convergent evolution, two traditions arriving at the therapeutic value of foot manipulation through entirely different conceptual routes. Understanding this distinction enriches both our appreciation of ancient Greek medical sophistication and our critical evaluation of modern complementary medicine's claims to historical authority.

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