



Review Article

# Expanding the Scope of Manual Medicine Through Research, Academic Exchange, and Healthcare Coverage: A Summary of Two International Conferences

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## ABSTRACT

In Korea, Chuna was officially included in the Korean national health insurance (NHI) system in 2019. In the US, osteopathic manipulative treatment has been part of conventional healthcare since 1966. Since there are few countries that provide manual therapy in mainstream healthcare, academic exchange between experts in Chuna therapy on an international stage is essential; to date there has been a conference in 2018 and 2019, both of which were held in Korea. This review presents a summary of these conference proceedings. There were 13 keynote speakers including doctors of Korean medicine, osteopathic physicians, and policymakers. In the 1<sup>st</sup> conference, seven speakers shared their knowledge on the history of Chuna, policies, and the current body of evidence for using Chuna and osteopathic manipulative treatment of various conditions. In the following year, six speakers also included novel Chuna techniques, similarities and differences, and explored the possibilities for collaborations moving forward. Previous to these two international conferences, the last national conference was held in Korea in 2008. The timing of these two international conferences has proved significant due to the inclusion of Chuna in Korean national health insurance in 2019, and helped to provide guidance in expanding the scope of manual medicine.

**Keywords:** congresses as topic, osteopathic manipulation, musculoskeletal manipulations

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## Introduction

There has been growing interest in manual therapies and numerous studies have explored their use, efficacy, and cost-effectiveness [1-6]. Manual therapy, or the use of hands-on technique to mobilize soft tissues and joints, is effective for pain control, and as such, many clinical guidelines recommend it for musculoskeletal disorders [7-9]. In the Republic of Korea, there has been an increasing demand for Chuna (a type of manual therapy performed in Korean) [10-11]. As a result of its increased popularity among

practitioners and patients, and after decades of concerted effort by policymakers promoting the practice of Chuna, in 2019, Chuna was included in the list of Korean Medicine (KM) treatments covered by the Korean national health insurance (NHI) system. This has allowed patients to receive Chuna at a more affordable price.

The inclusion of Chuna in the Korean NHI system marks a significant epoch in the history of KM. In 1987, Korea became the first country in the world to provide insurance coverage for all the main therapeutic traditional medicine practices [12]. The addition of Chuna to the NHI system signifies the

official recognition of Chuna as an integral part of public healthcare treatments, and expands the KM services covered by the Korean NHI. During the Japanese colonial era in Korea (1910-1945) the practice of Chuna was suppressed [13], so the inclusion of Chuna in the NHI system, in a relatively short period of time, is a clear example of how an almost-abandoned practice can be successfully reinstated due to the effort of passionate experienced individuals, and institutions. It took less than three decades from the reinvention of Chuna by Joon-Shik Shin in 1990 [14], and its official acknowledgement as a KM practice in 1994, to its full acceptance into mainstream medicine in 2019.

The acceptance of alternative manual therapy into modern healthcare which has insurance coverage is relatively rare. Interestingly, in the US, osteopathic medicine and osteopathic manipulative treatment (OMT) were developed in the 19<sup>th</sup> century with major emphasis on holistic medicine and the interrelationship between structure and function in the manipulation of joints. In the US, OMT is accepted as mainstream medical practice and osteopathic medicine doctors (DOs) hold the same medical practice rights as allopathic doctors of medicine (MDs). Not only is the philosophy behind OMT and Chuna very similar, but the medical system in the US and Korea where two different, but equivalent types of medical professions exist alongside each other is also similar.

In many other parts of the world, manual medicine is not yet a major part of medical practice. This comprehensive field of medicine involves using hands-on therapies to examine and treat disorders of musculoskeletal system and more. Despite ongoing research and clinical trials,

the underlying mechanisms of manual medicine and the definitions used remain equivocal. Owing to the paucity of available information, there has been an increasing demand for international conferences to facilitate the sharing of knowledge among practitioners, educators, and policymakers alike. This led to the organization of the “Jaseng International Conference” which brought together delegates in 2018 and 2019. The conferences were organized for manual medicine experts in the Republic of Korea and internationally to share knowledge and discuss opinions. The 1<sup>st</sup> conference was held on February 26, 2018, and the 2<sup>nd</sup> was held on May 26, 2019. Both conferences were organized by the Jaseng Hospital of Korean Medicine in Seoul, Korea. An interesting change in theme and topics were presented in 2019 following the inclusion of Chuna in the Korean NHI which took effect on April 8, 2019. This review summarizes the core contents of the two conferences.

## Discussion

The 2018 conference centered mainly on overviews of Chuna and OMT, while the 2019 conference was more specific, with an introduction to techniques, a comparison of the types of manual medicine, and exploration of future collaborative opportunities (Table 1).

### 1. What are Chuna and OMT

#### 1.1. An introduction to Chuna

In the 1<sup>st</sup> session of the 2018 conference, Dr. J-S Shin introduced the history of the practice of Chuna and

Table 1. Conference Program Summary.

Jaseng International Conference			
2018		2019	
Joon-Shik Shin KMD, PhD, SD	History and definition of Chuna	William Mayo, DO	Relevance of osteopathic manual medicine for ophthalmology and other specialty practice areas
Adrienne White-Faines, MPA, FACHE Brian Kim, JD	Osteopathic medicine and manual therapies in the US	Daniel Williams, DO FAAO	Manipulation in treatment of pain and disease: Rethinking the benefit
Boyd Buser, DO, FACOPF	Osteopathic medicine and manual therapies in the US	Kendi Hensel, DO, PhD	Collaborative research opportunities
Lawrence Prokop, DO	The importance of international academic exchanges in manual medicine and strategies for international joint research	Lawrence Prokop, DO	Advantages, similarities and differences between osteopathic manipulative therapy and Chuna
Byung-Cheul Shin, KMD, MPH, PhD	Clinical trial and evidence on the effectiveness and safety of Chuna	Byung-Cheul Shin, KMD MPH, PhD	Brief introduction to the national health insurance coverage inclusion process for Chuna manual medicine in Korea: Evidence on the effectiveness and safety of Chuna
Nicola Robinson, PhD	A UK perspective on Acupuncture research for musculoskeletal pain	Joon-Shik Shin, KMD, PhD, SD	Chuna for peripheral facial nerve palsy (Bell's palsy): SJS non-resistance technique
John Weeks	Research, activism, policy shifts in the rise of non-pharmacologic pain strategies in the USA		

the definition of Chuna therapy. As the founder of the Korean Society of Chuna Manual Medicine for Spine and Nerves (KSCMM), Shin extensively contributed to the reinvention and development of Chuna to its modern-day form [14]. Huangdi Neijing, an authoritative classic author of traditional Chinese medicine, described traditional manual medicine (Tuina, in Chinese) using the name of Do-in [15,16]. In Donguibogam, a Korean encyclopedic source of traditional East Asian medical knowledge and techniques, there is a description of manual medicine by the name of An-ma-do-in treatment, used for the purpose of improving health [17]. With reference to these texts, Dr. J-S Shin explained that Chuna is a manual treatment which opens and releases dysfunctional joints and muscles. It was created based on Tuina, and was further developed by incorporating aspects of Japanese Shiatsu, and Chiropractic and Osteopathic medicine used in the US [18]. Although the KSCMM was established on December 15, 1991, Chuna was only designated as a KoreanNHI non-payment item in 2011. In the US, from 2011 to 2019, Chuna was taught as a “continuing medical education” course to MDs and DOs, attesting to its worldwide interest and recognition. The KSCMM currently has 4,380 members, who are required to receive 126 hours of training to achieve the “regular” member status.

### **1.2. An introduction to OMT**

Following the introductory talk on Chuna, there were talks from the past president of the American Osteopathic Association (AOA), Boyd R. Buser, DO, FACOPF, the former AOA chief executive officer, Adrienne White-Faines, MPA, FACHE (2013-2019), and the vice president of accreditation and associate general counsel, Brian G. Kim, JD (2016-2019), on the theme “Osteopathic medicine and manual therapies in the US.” Osteopathic medicine was founded by Andrew Taylor Still, MD, DO, in 1874 where a holistic approach to medicine was adopted. He asserted that structure and function are reciprocally interrelated, and that the body is capable of self-regulation, self-healing, and health maintenance. His philosophy stressed the importance of preventive medicine, and various manual techniques, now known as OMT. They were used to diagnose, treat, and prevent illnesses and injuries. The 1<sup>st</sup> osteopathic medical school in the US was founded in 1892, and the AOA was established in 1897. OMT has been part of conventional healthcare system since 1966 when Dos were accepted into medical military services to serve as physicians and surgeons (equivalent to MDs). In the US, between 1980 and 2015, there was a large expansion in the number of orthopedic medicine schools (15 to 48) and a 300% growth in the number of practicing DOs.

## **2. What is manual medicine and what are the principles?**

### **2.1. An introduction to manual medicine**

In the 2018 conference, Dr. Buser gave a didactic talk on the theme of OMT. He defined OMT as “the therapeutic application of manually guided localized forces, by a DO, to improve physiologic function and support homeostasis.” OMT is performed using a variety of manual techniques to help alleviate pain, restore normal physiological motion, and support the body’s natural functions and healing system. OMT is applied to somatic dysfunctions, which usually coincide with musculoskeletal pain conditions, or accompany other effects of the somatic system upon other systems (respiratory and circulatory) including issues with breathing, low blood pressure (venous and lymphatic), and viscerosomatic reflexes.

In the 2019 conference, Daniel G. Williams, DO, FAAO, likened the mechanisms of manual therapy and the impact on the body, to tensegrity structures. Tensegrity structures are continuous connecting systems (tension systems) embedding or islanding multiple compression struts (non-touching rods). When the tensegrity system is applied to the body, the philosophy underlying this treatment method is that cell shapes influence the physiological activity of cells. Dr Williams described that while normal cells tend to undergo apoptosis, stretched cells have the potential for uncontrolled cell growth. Change in shape of a tensegrity system may secondarily alter cell and tissue shape. When trauma is sustained by a tensegrity system, the whole system adapts and rebalances. Thus, somatic dysfunction can influence the human tensegrity structure, which can cause tissue shape changes, triggering adjustments in physiology and gene expression. Manual medicine can be used to identify and remove somatic dysfunctions which affect the tensegrity structure of the body and consequently help restore physiological health.

### **2.2. Similarities between Chuna and OMT**

In 2019, Lawrence L. Prokop, DO, investigated the similarities of Chuna and OMT. Physicians of Chuna and OMT both emphasize using manual palpation techniques (static and dynamic diagnosis tests) to identify pathological signs in the body. Palpation of the body by trained practitioners can reveal problems that may go unnoticed or fall within normal limits in laboratory testing and radiological evaluations. KMDs and DOs use palpation to diagnose many problems, primarily neuro-muscular problems. Both of these health professionals are trained to view the body holistically, to emphasize that: (1) structure and function are interrelated; and (2) somatic dysfunctions can be palpated and diagnosed. Many pathological conditions involved in somatic dysfunction include muscle spasms and contractures, joint hypomobility, hypermobility

or instability, and pain, all of which can lead to dysfunction in daily activities, mobility, work, and leisure. Interestingly, both schools of medicine teach that without treating the structural problems, the dysfunction and pain will not be completely alleviated.

### 3. Application of manual treatment

Currently, manual medicine is mainly applied in the treatment of musculoskeletal disorders, however, effort is being made to expand the scope of treatment. While the conference in 2018 focused on sharing the research and evidence of efficacy for Chuna, the conference in 2019 focused on sharing new techniques that could help expand the current scope of treatment. William S. Mayo, DO, presented an osteopathic treatment for ophthalmologic diseases and Dr. J-S Shin provided a detailed explanation and demonstration of the Stevens-Johnson syndrome (SJS) Non-Resistance Technique that can be used to treat peripheral facial nerve paralysis.

#### 3.1. OMT in ophthalmology

The 1<sup>st</sup> session of the conference in 2019 was presented by Dr. Mayo, the president of the AOA. He presented an in-depth review of the "Relevance of Osteopathic Manual Medicine (Therapy) for Ophthalmology and Other Specialty Practice Areas." Dr. Mayo, talked about the general principles and techniques of OMT that can be used to manage various ophthalmic pathological conditions [19], and of how OMT can be used effectively in treating dacryostenosis, dysthyroid orbitopathy, keratoconjunctivitis sicca, cephalgia from asthenopia, and ocular hypertension.

A common OMT for dacryostenosis is nasolacrimal massage. Cranial bone lift techniques (such as a frontal lift to alleviate frontal bone restrictions), assessment of maxillary and zygomatic paired bones (for internal or external rotational dysfunctions), using extra- or intraoral OMT techniques, and treating muscular restrictions of the palpebral portion of the orbicularis oculi muscle can be applied. For dysthyroid orbitopathy, not only relieving optic nerve compression, but also decreasing orbital/periorbital congestion, venous sinus drainage, and ophthalmic vein drainage is important. For intraoral treatment of the sphenopalatine ganglion, relaxing the fascia surrounding the ganglion may be effective. The ganglia are located in the superior, posterior, and lateral area of the pharynx and can be manually relaxed with direct or indirect myofascial release. For cephalgia caused by asthenopia, occipital condylar decompression can be used. Balanced ligamentous tension could help loosen taut fascial connections in extraocular musculature. OMT for ocular hypertension, could focus on improving osseous muscular, membranous, sympathetic, and parasympathetic dysfunctions to improve microcirculation because constriction of superior orbital

fissure, intracranial venous congestion, dysfunction of the cavernous sinus, and craniocervical or cervicothoracic tension can impair blood flow through the superior ophthalmic veins.

#### 3.2. The SJS Non-Resistance Technique for peripheral facial palsy

In the treatment of facial palsy, the SJS Non-Resistance Technique can be applied according to the following process. The affected side of the face is gently pulled by the practitioner's hand whilst the unaffected side is pushed in sync with the other. The push and pull forces are applied only at the skin and fascia (connective tissue) level, avoiding any direct pressure to the muscles. When applying corrective force, the patient should not feel resistance or movement at the muscle level, and only the skin and underlying fascia should be stimulated. Following manipulation, the physician should check whether the midpoint between the eyebrows, and the philtrum and mentolabial groove are properly aligned to the center [20].

The SJS Non-Resistance Technique is similar to facial neuromuscular re-education methods. Such neuromuscular re-education methods stimulate proprioceptors of the facial muscles [21], consequently influencing neuromuscular structures. Motor function is thus restored by using this mechanism. Forces are also applied to the non-affected side to reinforce stimulation of the affected side [22]. A study has shown that muscle re-education, achieved through proprioceptor stimulation, is effective for the treatment of facial nerve palsy [21]. Such exercises stimulate proprioceptors of the muscles and tendons to restore muscle function and accelerate recovery [23]. The facial and trigeminal nerves exhibit close functional and anatomical relationships in the sensory and motor divisions. Muscles innervated by the facial nerve lack typical proprioceptors, and proprioception of the craniocervical muscles depend on the trigeminal nerve, as its innervated muscles contain proprioceptors. This correlation is important for accurate facial muscle proprioception [24]. For optimal results, the patient is instructed not to talk or use their facial muscles immediately after treatment.

### 4. Studies on manual medicine

#### 4.1. Research on Chuna

Byung-Cheul Shin, KMD, MPH, PhD, presented the latest research on Chuna at the 2018 conference. His talk was titled "Clinical trial and evidence on the effectiveness and safety of Chuna." The data was based on a 2017 systematic review and meta-analysis of Chuna (or Tuina) manual therapy for the treatment of musculoskeletal disorders. There were 66 randomized controlled trials reviewed suggestive that Chuna may have favorable effects on the level of pain and functional disability caused by musculoskeletal disorders.

However, the quality of the evidence in these trials was low. High-quality randomized controlled trials are needed to provide evidence of the effectiveness of Chuna for musculoskeletal diseases [3].

A pilot trial in 2016 compared Chuna with conventional care for nonacute low back pain a pragmatic 3-arm multicenter randomized controlled pilot trial that was designed to explore the feasibility of a full-scale clinical trial [25]. Based on this pilot trial, a pragmatic multicenter randomized controlled clinical trial is currently under way for nonacute low back pain (Chuna plus usual care vs. usual care) [2].

#### **4.2. Research on OMT**

In 2019, Kendi Hensel, DO, PhD, gave a presentation on potential areas for collaborative research. She described the 2018 research priorities of the AOA: chronic diseases and conditions, osteopathic philosophy, musculoskeletal injuries and prevention, impact of OMT, and pain management. In the US recently, there has been an increase in funding for OMT research. As the primary funding organization, research funds from the AOA increased from \$300,000 in 2016 to \$1,390,961 in 2018. Moreover, over the past decade, there has been a 180% increase in funding given to osteopathic institutions from the National Institutes of Health in the US. Through increasing interest and increased funding in the field of osteopathic research, various joint research opportunities may be considered, and projects such as the effectiveness of OMT in Parkinson's disease can be pursued [26-28].

### **5. The significance of manual medicine and the importance of international exchange**

In 2018, Dr. Prokop gave a talk on "The importance of international academic exchange in manual medicine and strategies for international joint research." He explained that, especially in the US, there has been increased interest in the utilization of more "natural" treatment modalities such as nutrition, exercise, and manual medicine. Manual medicine may reduce the use of narcotics, muscle relaxants, and anti-inflammatory medications. When performed properly, the therapeutic touch of manual medicine can decrease physical and emotional stress and anxiety, improve relaxation, and speed up the rate of post-surgical recovery. With continued expansion of manual medicine globally, we have access to new perspectives and experiences that can encourage further development of manual medicine. Wider use of manual medicine will increase the number of "healthy alternative options" for patients interested in living healthier lives. International conferences facilitate sharing of the latest research undertakings and connect experts, leading to a variety of openings for development of future projects.

### **6. Academic sessions – Policy and research**

There is still a lot to learn from other fields of integrative medicine, and among the most researched is acupuncture. In both the UK and the US, acupuncture has been suggested as a promising, low-cost treatment modality that may be used as a tool for pain management. Two sessions were devoted to the study of policies and research in medical fields other than Chuna and OMT. John Weeks presented a session on the rise of non-pharmacological pain strategies and shared insight into the different roles of consumers, policymakers, practitioners, and researchers in changing policies on pain. The collective efforts led to multiple institutions and associations in the US specifically recommending acupuncture and other integrative medicine techniques in the "New 2016-2017 Pain Guidance." This was contrasted by the situation in the UK where the inclusion of acupuncture in the NICE guidelines for low back pain was a subject of much debate [29]. Nicola Robinson provided a comprehensive and thorough overview of the utilization, effectiveness, implications for policy, and future challenges of integrative medicine techniques [30].

With the opioid crisis and continued increase in the number of patients in pain, there is an increasing demand for alternatives to pharmacological treatments. Chuna, a major component of KM treatment for spinal disorders, has been included in the Korean NHI system for insurance coverage. This indicates that the efficacy and safety of Chuna has been reviewed and has received recognition from the NHI service. A study conducted by the Korea Institute for Health and Social Affairs during a trial period, reported that 92.8% of respondents replied that they were "satisfied" or "very satisfied" with Chuna, and only 0.9% reported dissatisfaction [10]. The continued increase in OMT-related research funding in the US is mainly attributed to the increasing demand for OMT, and several randomized controlled trials are in progress. Therefore, it can be inferred that the status and demand for Chuna in Korea and OMT in the US are high. Furthermore, studies suggest that manual medicine is a safe and cost-effective treatment [31-33], and it is recommended for use in various national clinical guidelines [7-9]. This alludes to the fact that manual medicine holds potential for widespread use and integration into mainstream medicine where its use is not yet prevalent.

Although the main indications for manual medicine are primarily musculoskeletal disorders, the conference in 2019 broadened the horizon, paving the way for the development of new techniques in the practice of manual medicine. These techniques presented new possibilities for use of the Chuna and OMT in treating ophthalmologic conditions and diseases, and facial nerve paralysis. This points to the possibility and potential application of manual medicine not only for musculoskeletal disorders, but also dysfunctions

related to functional, neurological, and vascular pathologies [34,35]. In the future, exploration of the cost-effectiveness of manual medicine could help provide evidence on how the use of Chuna and OMT can ease the economic burden of treatment through accelerated recovery and reduction of treatment duration.

The two international conferences that were held in 2018 and 2019 allowed experts and researchers in manual medicine to get together to share invaluable knowledge, insight, and discuss the evidence for the safety and efficacy of manual medicine treatment of various conditions. However, global consensus regarding the definition of manual medicine and its proposed mechanisms of action has yet to be reached. The two conferences signal the beginning. More international conferences should be organized regularly to further develop the field of research and facilitate collaborations. Moreover, although the two conferences were limited in academic exchange to manual medicine and research experts of the Republic of Korea, the US and the UK, it is hoped that this review contributes to wider awareness and participation of experts in the field of manual medicine from around the world through the reach of its readership.

#### Author Contributions

Conceived and designed the work: SMKL, SBH, JSS, MRK, IHH, and JHL. Collected the data: SMKL, SBH, and JHL. Contributed data, including data analysis and interpretation: BB, KH, BK, WM, LP, NR, BCS, DW, JSS, and JHL. Performed the analysis: SMKL and SBH. Drafted the article: SMKL, SBH, and JHL. Revised the article for important intellectual content: BB, KH, BK, WM, LP, NR, BCS, DW, JSS, MRK, IHH, and JHL.

All authors have given final approval of the version to be published.

#### Conflicts of Interest

The authors declare no conflict of interest.

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#### Data Availability

All relevant data are included in this manuscript.

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