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MERIDIANS

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INSIDE

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MERIDIANS

The Journal of Acupuncture and Oriental Medicine

Letter from Editor in Chief Jennifer A. M. Stone, LAc

Dear Colleagues,

Welcome to our 2018 winter issue. *Meridians: The Journal of Acupuncture and Oriental Medicine* began its quarterly publication in fall 2014. To this day, it strives to be our profession's best possible resource for scientific research, education, clinical practice, case reports, meta-analyses, business practice, policy, ethics, law, history and culture, nomenclature, translations and related disciplines.

As we look to continuously serve the profession, the leadership of Meridians: JAOM undertook a comprehensive review that examined how eight leading medical professional groups position their professional journals. This review looked at publications in each of the following groups: Medical Doctors (MD), Doctors of Osteopathy (DO), Registered Nurses (RN), Dentists (DDS), Podiatrists (DPM), Physical Therapists (PT), Chiropractors (DC), and Licensed Acupuncturists (LAc).

Following that review, it became overwhelmingly clear that the most appropriate affiliation for Meridians: JAOM is with our national professional organization, the American Society of Acupuncturists (ASA). Each of the major medical groups listed above holds this type of affiliation between their professional societies and their predominant journals. We are therefore delighted to announce that beginning with our winter 2018 issue, Meridians: JAOM is now published under the auspices of the American Society of Acupuncturists as its official journal. Please note our new ASA seal on the front cover and the table of contents page.

As we segue into this new affiliation, we acknowledge that the success of the Journal to date would not have been possible without the generous interim affiliation with and support from our national certifying agency, the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM). As the ASA takes over as the home of the Journal, the NCCAOM is graciously and energetically continuing to give us their support via advertising and sponsorship.

Just a peek at the TOC in this winter 2018 issue reveals the collaborations occurring within our profession, such as the white paper co-sponsored by the American Society of Acupuncturists (ASA), the American Alliance for Professional Acupuncture Safety (AAPAS), the Acupuncture Now Foundation (ANF), the American TCM Association (ATCMA), the American TCM Society (ATCMS), and the National Federation of Chinese TCM Organizations (NFCTCMO). Our two conference reports reveal collaborations within the academic and medical profession, and Bill Reddy reports on the political activism of IHPC and NCCAOM responding to the opioid epidemic.

As we continue to serve each of you, clinicians at the forefront of today's medical practice, we also present two case reports that each discuss a common ailment you most likely encounter in your daily practice—migraines and rheumatoid arthritis. Our book review is also about a very timely topic: genetic testing and acupuncture for IVF. Our semi-annual topic in our clinical pearls section addresses how to treat several forms of severe pain.

Meridians JAOM welcomes letters to the editor from our readership. Please send them to info@meridiansjaom.com and be sure to include your full name and any licenses and/or titles, your phone number, and email address.

We sincerely thank all involved in helping Meridians: JAOM and our profession continue to evolve as we take our rightful place among the leading medical professions in the U.S. and internationally. We look forward to continuing this privilege in 2018.

As always, we invite your feedback, questions, submissions and letters to the editor: info@meridiansjaom.com.

Jennifer Stone, LAc
Editor in Chief
Meridians: JAOM

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Case Report

Treatment of Long-Term Migraine Utilizing Balance Acupuncture

By Karsten Blome, MD

Karsten Blome received his medical degree at the University of Münster, North Rhine Westphalia, Germany. He has clinical experience in internal medicine and psychiatry, including psychosomatic conditions. He works in a psychosomatic clinic in Germany. Currently he is undertaking PhD studies in traditional Chinese medicine (acupuncture) at the Traditional Chinese Medicine Academy, Cologne, Germany, in an affiliated program at the Zhejiang Chinese Medical University in Hangzhou/ China.

Abstract

This case study demonstrates the successful treatment of a 52-year-old female patient who suffered from migraine for nearly 25 years. The episodes occurred 2-3 x per week. The patient received six Balance Acupuncture treatments over a period of four weeks. The result was assessed by a 10 point visual analogue scale (VAS) and measurement of the headache frequency. To assess the short-term effect, pain was documented directly after the acupuncture sessions and two hours later. To assess the long-term effect, the follow up was documented four and 12 weeks after the treatment period. The treatment of migraine with Balance Acupuncture showed promising results especially for the acute treatment and was also long-lasting.

Key Words: Balance Acupuncture, headache, migraine, traditional Chinese medicine

Introduction

Migraine is a primary headache disorder often referred to as tension type headache and cluster headache. It is characterized by moderate to severe headache which typically affects one half of the head, but the pain can also be bilateral and accompanied with neck pain.[1] In Germany nearly 10% of the population suffer from migraine. Women are affected three times more frequently.[1] This condition is periodically recurrent and frequently affects people between 25 and 45 years of age.

The pain is described as pulsating and pounding and lasts from 2 to 72 hours. Migraine lasting longer than 72 hours is classified as status migrainosus. Associated symptoms are nausea, vomiting, phonophobia and photophobia. Around 30% of migraine attacks are preceded by a migraine aura, which is characterized by optical or sensory perception; motoric disturbances are also possible. It is also possible than an aura occurs without a following headache. Contrary to tension-type headache, the pain is made worse by physical activity.[2]

The cause of migraine is not exactly known. It is believed to be a combination of environmental and genetic factors, such as hormones, stress, sleeping disorders, and food with a high level of glutamate, serotonin, and histamine and tyramine, such as red wine, cheese, and chocolate.[3] Chronic migraine is determined by more than 15 days of migraine in a month over a period of three months. Nearly 2% of the population is affected by this condition.[4]

Regarding temporal headache, traditional Chinese corresponds to *shaoyang* headache and is mainly associated with disorder of the Liver and Gallbladder. Common causes are ascendant Liver *yang* (with Liver *yin* deficiency), Liver Fire, Liver *qi* constraint (with Heat or Blood deficiency), Gallbladder, and sometimes Stomach disharmony.[5]

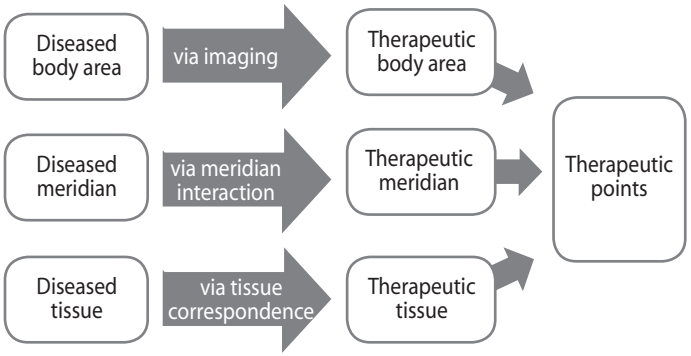
The western therapy of choice is to prescribe painkillers (NSAIDS), such as ibuprofen, aspirin, paracetamol, and medication for nausea, such as metoclopramide for easier cases and triptans or ergotamines in cases where NSAIDS are less or not effective. To prevent migraine, beta blockers (metoprolol), antiepileptics (valproate, topiramate) and tricyclic antidepressants (amitryptilin) are used prophylactically.[1]

Balance Acupuncture

In use for more than 2500 years, "Balance Acupuncture," also called "I-Ching Acupuncture," is based upon the philosophies of the *Ba Gua* and the *I Ching, The Book of Changes*. These sources say to be free of pain means that the meridian system is in balance, with *qi* and blood circulating without restrictions. Stagnations are removed and a free and harmonic flow is restored.

The basic premise is that despite its root cause, pain is seen as the chief disturbance.[6] This treatment method is characterized by very fast pain relief, usually occurring within seconds of needle insertion.[7] The needles are not directly inserted into the area of pain—no *ashi* points are used. The selected points are distal to the affected area, usually located distal from the elbows and the knees, including hands and feet. The treatment principle is to identify the affected meridian and to balance it by treating the corresponding meridians according to a defined system until the pain is clearly reduced or the patient even becomes free of pain during the treatment session. See Figure A.

Figure A



To identify the therapeutic points, Balance Acupuncture focuses on three components:

- Diseased area of the body
- Diseased channel or meridian
- Diseased tissue

Each component leads to its system of correspondence via the therapeutic points as shown in Figure A.

Meridian Interaction

Table A. Meridian/ Channel Balancing System

	System 1	System 1A	System 2	System 3	System 4	System 5	System 6
Affected Meridian							
LU	SP	ST	BL	LI	BL	LR	LU
LI	ST	SP	LR	LU	KI	ST	LI
ST	LI	LU	PC	SP	PC	LI	ST
SP	LU	LI	SI	ST	3E	HT	SP
HT	KI	BL	GB	SI	GB	SP	HT
SI	BL	KI	SP	HT	LR	BL	SI
BL	SI	HE	LU	KI	LU	SI	BL
KI	HT	SI	3E	BL	LI	PC	KI
PC	LR	GB	ST	3E	ST	KI	PC
3E	GB	LR	KI	PC	SP	GB	3E
GB	3E	PC	HT	LR	HT	3E	GB
LR	PC	3E	LI	GB	SI	LU	LR

Balance Acupuncture utilizes seven systems to balance an affected meridian as shown in Table A:

System 1: Channels of the upper extremities balance their counterpart in the lower extremities that share their Chinese channel name (for example: hand *taiyin* Lung treats foot *taiyin* Spleen and vice versa).

System 1A: This is a modification of system 1. *Taiyang* treats *shaoyin*, *shaoyang* treats *jueyin*, *yangming* treats *taiyin* and vice versa (for example: in system 1 the foot *taiyang* Bladder channel is treated using the hand *taiyang* Small Intestine channel; in system 1A the foot *taiyang* Bladder channel is treated via the internal-external relationship of the hand *taiyang* Small Intestine channel, the hand *shaoyin* Heart channel).

System 2: Opposite channels based on their Chinese meridian name balance each other. *Taiyin* treats *taiyang*, *shaoyin* treats *shaoyang*, *yangming* treats *jueyin* and vice versa.

System 3: Channels based on their internal-external *zangfu* relationships balance each other (for example: Large Intestine treats Lung and vice versa).

System 4: Channels on the opposite side of the Chinese *zangfu* clock balance each other (for example: foot *taiyin* treats hand *shaoyin* and vice versa.

System 5: Neighbouring channels on the Chinese *zangfu* clock balance each other (for example: foot *taiyin* treats hand *shaoyin* and vice versa).

System 6: The affected channel treats itself.

Balance is achieved by pairing the affected channel with the appropriate balancing channels according to Table A. For example, there are five possible channels that can be used to balance problems on the Stomach channel: the Lung channel, the Large Intestine channel, the Spleen channel, the Pericard channel and the Stomach channel itself. Usually the opposite side is treated in systems 1, 1A, 3 and 5. Systems 2, 4 and 6 can be used on either side.

Imaging: Based upon imaging, the hands, arms, feet and legs are treated. The needles are inserted according to corresponding tissue (tip bone to treat bone, tip muscle to treat muscle, tip tendon, to treat tendon, etc.). There are a variety of different images. For more detailed information and examples about the theory of imaging, refer the corresponding literature.[6,7]

Case Description

Case History

The patient was a 52-year-old female with a twenty-five year history of migraine episodes occurring 2-3 x per week and lasting up to three days. She experienced no optical aura but had phonophobia and photophobia. The migraine was diagnosed by a neurologist.

The patient described her complaints as follows:

- Pounding and pulsating pain on the left side of the head, from the neck and base of the skull to the eyes, worst at the temple, accompanied by nausea but no vomiting
- Pain according to VAS varied from 2-8
- Headache got worse with stress and physical activity
- Usually the pain lasts for nearly 24 hours without medication
- For an acute attack, Sumatriptane 100 mg or Imigrane as nasal spray was taken
- No prophylactic medication was taken

Clinical Findings

Past Medical History and Other Ailments

- Hypertension treated with Metoprolol 47.5 mg 2 x per day
- Recurrent moderate depressive episode treated with Venlafaxin 112.5 mg per day
- High cholesterol treated with Simvastatin 40 mg per day
- Recurrent gastritis treated with Pantoprazole 40 mg per day
- Recurrent pain of the neck and lower back due to degenerative changes
- Tinnitus on the right side
- Recurrent insomnia

Social History

The patient worked as a geriatric nurse. She was married and had a daughter who suffered from multiple sclerosis. The patient described her job and personal situation as stressful and exhausting. She didn't smoke and she drank very rarely alcohol. Her hobby was her garden.

Physical Examination

The patient was 5'4" and weighed 138 pounds (BMI 25, 6). Her appetite was satisfactory. The blood pressure was normal range (130/80 mmHg); EKG was normal. She showed limited rotation of the cervical spine due to degenerative changes. The physical examination of the lung, heart and abdomen were unobtrusive. The laboratory investigation showed slightly increased transaminases (ASAT, GGT), presumably due to intake of antidepressants.

Diagnostic Assessment

In Balance Acupuncture, the diagnosis is made by identifying the affected meridian. Examination of the tongue and pulse is not necessary. In this case the pain was on the left side of the head, from the neck and base of the skull to the eyes, and worst at the temple.

The symptoms corresponded to *shaoyang* headache. The affected meridian was mainly the Gallbladder meridian. Since the pain was also in the area of the neck, the Bladder meridian may also have been involved.

Therapeutic Intervention

The patient received acupuncture six times over a four week period. The acupuncture points were chosen according to the principles of Balance Acupuncture. The affected meridians were primarily the Gallbladder meridian and the Bladder meridian.

There were five possibilities to fix the affected Gallbladder meridian according to the Table 1 meridian interaction: Pericard, *san jiao*, Gallbladder, Liver and the Heart. There were also five possibilities to fix pain of the Bladder meridian: Heart, Small intestine, Bladder, Kidney and the Lung.

The therapeutic body area is assessed via imaging, see Figure 1 (Table A and Figure A are listed previously in the article). In this case, the images of the legs, arms, hands and feet were used to treat the head according to the following tables.

Table 1. Image of the Head Projected on Leg or Arm

Pain Located in Head Area	Area Needled on Leg	Area Needled on Arm
top of the head	toes	fingers
eyes, ear	knee	knuckles of hand
chin	hip joing	shoulder joint

Figure 1

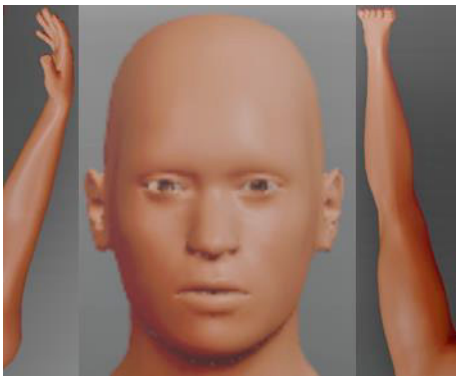


Table 2. Image of Head Projected on the Hand Reversed

Pain Located in Head Area	Area Needled on Hand
top of head	palm
eyes/ear	knuckles of hand
c7/th1	fingertips

Figure 2

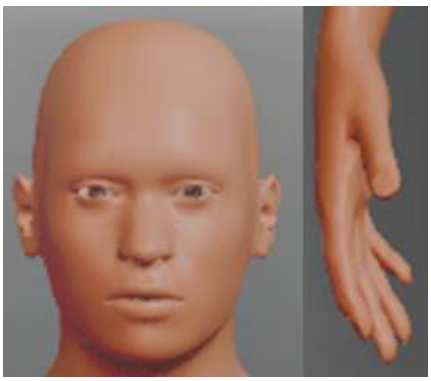


Table 3. Image of the Torso Projected on the Arm and Leg Reversed

Pain Located on the Torso	Area Needled on Leg	Area Needled on Arm
top of the head	fingertips	tiptoe
c7/th1	wrist	ankle
diaphragm	elbow	knee

Figure 3

Chosen images and steps used for the treatment of this case:

1. The hand treats the head reversed (Table 2) via systems 2 and 4, using Shaofu He-8.
2. The whole leg treats the head reversed (Table 1) via systems 2 and 4, using Shaohai He-3.

To achieve a better result, it is effective to spread the image. For spreading the image defined acupuncture points are not required.

In this case in step 1 one, the needle was put into Shaofu He-8 and one needle 1 cun distal to Shaofu He-8 between the knuckles. The knuckles image the area of the eyes.

In step 2 one needle was put into Shaohai He-3 and one needle 2 cun distal to Shaohai He-3. He-3 images the area of the eyes, the point below the area images the area above the eyes (Table 1).

3. The whole leg treats the torso (Table 3) via system 3, using Rangu Ki-2, Taixi Ki-3 and Fuliu Ki-7.

With these points, the Bladder meridian on the head and the neck was treated.

4. The whole leg treats torso (Table 3) via system 6, using Fuyang Bl-59,

Kunlun Bl-60, Shenmai Bl-62 and Jinmen Bl-63.

These points treat also the Bladder meridian on the head and neck.

Continued on page 10

"Chronic migraine is determined by more than 15 days of migraine in a month over a period of three months. Nearly 2% of the population is affected by this condition."[4]

Procedure

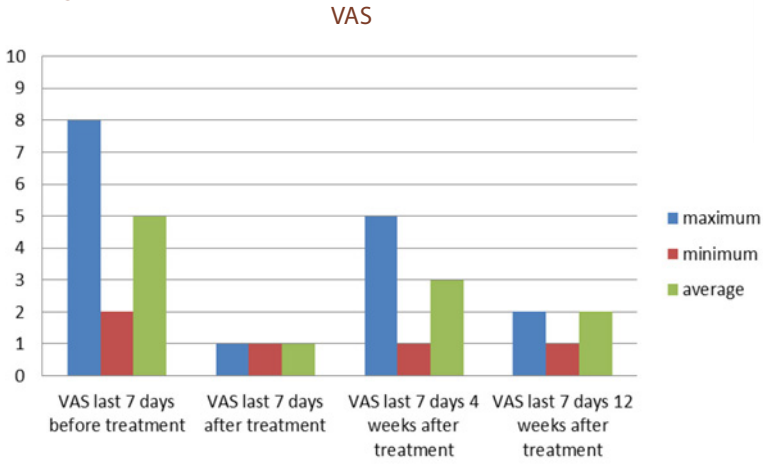
When using Balance Acupuncture, it is helpful to treat the patient when the pain is acute. The patient came to the first treatment with pain VAS 6. In this case, the first chosen channel was the Heart meridian to treat the affected Gallbladder meridian of the head (Steps 1, 2). After this, the pain on the left side of the head and the temple decreased from 6 to 2. The pain was no longer at the temple but at the base of the skull and the neck radiating to c7.

The consideration was now that the Bladder meridian besides the Gallbladder meridian is affected. After treating the Kidney meridian the pain decreased to 1 (step 3) and after treating the Bladder meridian (step 4) the patient was free of pain. All points were needled bilaterally. The needles retained for 30 minutes, no *deqi* was explicitly elicited. The whole procedure took 4-5 minutes.

Results and Follow-Up

To measure the effect of the treatment, the 10 point visual analogue scale (VAS) was used.

Figure 4



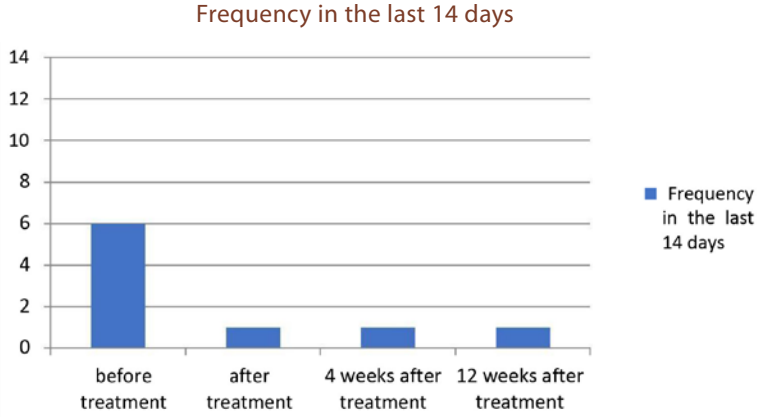
As shown in Figure 4, pain according to the 10 point visual analogue scale (VAS) was assessed 4 times:

- Over a 7 day period preceding the first treatment
- Over a 7 day period preceding the final treatment
- Over a 7 day period 4 weeks after treatment
- Over a 7 day period 12 weeks after treatment

The maximum, minimum and average pain scores clearly decreased and were the lowest after treatment. four weeks after treatment, the pain scores rose again but were still lower than before the first treatment. Over the time course of treatment, the pain decreased and remained low 12 weeks after treatment.

"Although the patient had been suffering from migraine for 25 years, a great improvement was observed with only six sessions over a four week period. Balance Acupuncture is known for its immediate effect[7] and also in this case the result was rapid and still effective 12 weeks after treatment."

Figure 5



Headache frequency was also assessed (Figure 5):

- Over a 14 day period preceding the first treatment
- Over a 14 day period preceding the final treatment
- Over a 14 day period 4 weeks after treatment
- Over a 14 day period 12 weeks after treatment

Headache frequency decreased from six times to one time over a 14 day period and remained at this level 12 weeks after treatment.

Figure 6

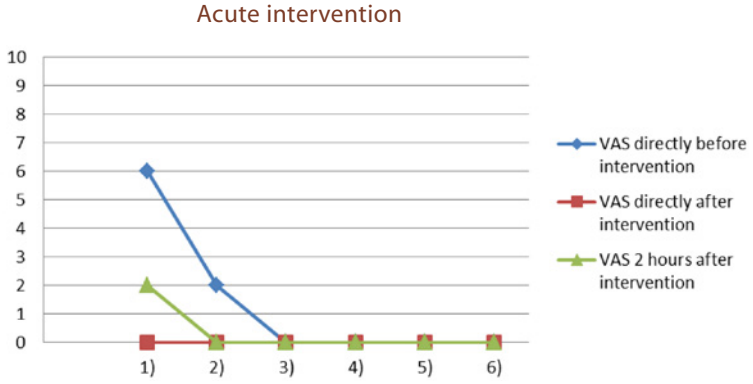


Figure 6 shows the short-term effect of the treatment. The patient was treated six times. During the first treatment session, the pain decreased from 6 to 0. Two hours after treatment, it rose again slightly to 2. During the second treatment, the pain decreased from 2 to 0 and was still at 0 two hours after treatment. The patient arrived to the four following treatment sessions without pain.

Discussion

From a TCM perspective, this headache, with pounding pain on one half of the head mainly in the area of the Gallbladder meridian, corresponds to *shaoyang* headache. This is commonly treated by using points on the Gallbladder, Liver, *san jiao* and Pericard meridian. In this case pain on the side of the patient's head decreased by treating *shaoyang* Gallbladder meridian via the Heart meridian but still remained in the neck and the base of the skull. To achieve complete pain relief the Bladder meridian had also to be balanced in this case. Using common acupuncture strategies, one would not necessarily consider to treat the Bladder meridian in a shaoyang headache.

Although the patient had been suffering from migraine for 25 years, a great improvement was observed with only six sessions over a four week period. Balance Acupuncture is known for its immediate effect[7] and also in this case the result was rapid and still effective 12 weeks after treatment.

Conclusion

This patient had suffered from migraine for twenty-five years. Effects of the use of Balance Acupuncture to treat her condition was rapid and long-lasting as demonstrated by decreased pain according to VAS as well as decreased headache frequency. Large clinical trials on use of Balance Acupuncture for this and other conditions are almost non-existent in western databases. Its immediate analgesic effect should be further tested as an effective alternative to painkillers.

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"Large clinical trials on use of Balance Acupuncture for this and other conditions are almost non-existent in western databases. Its immediate analgesic effect should be further tested as an effective alternative to painkillers."

Acupuncture's Role in Solving the Opioid Epidemic: Evidence, Cost-Effectiveness, and Care Availability for Acupuncture as a Primary, Non-Pharmacologic Method for Pain Relief and Management – White Paper 2017

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Abstract

The United States is facing a national opioid epidemic, and medical systems are in need of non-pharmacologic strategies that can be employed to decrease the public's opioid dependence. Acupuncture has emerged as a powerful, evidence-based, safe, cost-effective, and available treatment modality suitable to meeting this need. Acupuncture has been shown to be effective for the management of numerous types of pain conditions, and mechanisms of action for acupuncture have been described and are understandable from biomedical, physiologic perspectives. Further, acupuncture's cost-effectiveness can dramatically decrease health care expenditures, both from the standpoint of treating acute pain and through avoiding addiction to opioids that requires costly care, destroys quality of life, and can lead to fatal overdose. Numerous federal regulatory agencies have advised or mandated that healthcare systems and providers offer non-pharmacologic treatment options for pain. Acupuncture stands out as the most evidence-based, immediately available choice to fulfill these calls. Acupuncture can safely, easily, and cost-effectively be incorporated into hospital settings as diverse as the emergency department, labor and delivery suites, and neonatal intensive care units to treat a variety of commonly seen pain conditions. Acupuncture is already being successfully and meaningfully utilized by the Veterans Administration and various branches of the U.S. military, in some studies demonstrably decreasing the volume of opioids prescribed when included in care.

Key Words: Acupuncture; opioid epidemic; pain; opiate dependency; effectiveness; safety; cost-effectiveness; mechanism; United States

Citation: Fan AY, Miller DW, Bolash B, Bauer M, Faggert S, He H, Li YM, Matecki A, Camardella L, Koppelman MH, Stone J, McDonald J, Meade L, Pang J. Acupuncture's Role in Solving the Opioid Epidemic: Evidence, Cost-Effectiveness, and Care Availability for Acupuncture as a Primary, Non-Pharmacologic Method for Pain Relief and Management—White Paper 2017. *J Integr Med*. 2017; 15(6): 411–425.

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1. Introduction

In 2015 it was estimated that 25.3 million Americans suffered from chronic pain, while an estimated 126 million American adults reported some type of pain in the prior three months.[1] As a result, more than 240 million prescriptions were written for opioid medications during that year.[2] An unfortunate consequence of this high use and availability of opioids, is a growing number of opioid-related deaths from addiction and overdose.

More than 33,000 Americans died from opioid drugs in 2015, and more than 64,000 died in 2016.[3] Due to the severity of this epidemic, a White House panel urged the United States (U.S.) president to declare the opioid crisis a national emergency. August 31, 2017 was designated as "International Overdose Awareness Day" by the Centers for Disease Control and Prevention (CDC).[4]

To cope with the opioid crisis, various federal regulatory and oversight agencies, including the U.S. Food and Drug Administration (FDA), the National Academies of Sciences, Engineering, and Medicine (NASEM), and the Joint Commission have started to advise or mandate that healthcare systems and providers offer non-pharmacologic treatment options for pain control.[5-7] Acupuncture stands as the most evidence-based, immediately available choice to fulfil these calls.

The aim of this white paper is to summarize for academic scholars, healthcare professionals, administrators, policymakers, and the general public the available evidence for acupuncture as a treatment for various pain conditions as well as for opiate dependency. This includes evidence on the safety, cost-effectiveness, mechanisms of action, and provider availability for acupuncture.

2. Acupuncture is an effective, safe, and cost-effective treatment for numerous types of acute and chronic pain; acupuncture should be recommended as a first line treatment for pain before opiates are prescribed, and may reduce opioid use

2.1 Effectiveness/Efficacy of acupuncture for different types of pain

There is growing research evidence to support the effectiveness and efficacy of acupuncture for the relief of numerous types of pain, especially chronic pain, as well as for the use of acupuncture for a diverse array of medical conditions. In an independently published work, which is the largest and most comprehensive of its kind for the period evaluated, McDonald and Janz[8] summarized the research from March 2013 to September 2016 for acupuncture, published and available in all languages on PubMed and in the Cochrane Library. They looked at systematic reviews, meta-analyses, network meta-analyses, overviews of systematic reviews (NHMRC level I evidence), and a number of narrative reviews. They performed meta-analyses on 62 of the non-Cochrane systematic reviews, representing pooled data from more than 1,000 randomized controlled trials (RCTs). They assessed and graded the quality of evidence, and noted the strength of evidence for acupuncture for numerous conditions (Box 1).

Acupuncture has been found to be effective for treating various types of pain, with the strongest evidence emerging for back pain, neck pain, shoulder pain, chronic headache, and osteoarthritis. In an individual patient meta-analysis of 17,922 people from 29 RCTs, patients receiving acupuncture had less pain, with scores that were 0.23 (95% confidence interval (CI), 0.13–0.33), 0.16 (95% CI, 0.07–0.25), and 0.15 (95% CI, 0.07–0.24) standard deviations (SDs) lower than sham controls for back and neck pain, osteoarthritis, and chronic headache, respectively; the effect sizes in comparison to non-acupuncture controls were 0.55 (95% CI, 0.51–0.58), 0.57 (95% CI, 0.50–0.64), and 0.42 (95% CI, 0.37–0.46) SDs. A variety of pain severity and disability scores were used, including Visual Analog Scale (VAS) ratings, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and the Roland Morris Disability Questionnaire. These results were robust to a variety of sensitivity analyses, including those related to publication bias.[9]

"Acupuncture has been shown to be effective for the management of numerous types of pain conditions, and mechanisms of action for acupuncture have been described and are understandable from biomedical, physiologic perspectives."

Box 1. Acupuncture for the Use of Numerous Conditions Including Pain Conditions: the Acupuncture Evidence Project (Mar 2013–Sept 2016)

Evidence of Positive Effect

- Allergic rhinitis (perennial & seasonal)
- Chemotherapy-induced nausea and vomiting (with anti-emetics)
- Chronic low-back pain
- Headache (tension-type and chronic)
- Knee osteoarthritis
- Migraine prophylaxis
- Post-operative nausea & vomiting
- Post-operative pain

Evidence of Potential Positive Effect

- Acute low-back pain
- Acute stroke
- Ambulatory anaesthesia
- Anxiety
- Aromatase inhibitor-induced arthralgia
- Asthma in adults
- Back or pelvic pain during pregnancy
- Cancer pain
- Cancer-related fatigue
- Constipation
- Craniotomy anaesthesia
- Depression (with antidepressants)
- Dry eye
- Hypertension (with medication)
- Insomnia
- Irritable bowel syndrome
- Labor pain
- Lateral elbow pain
- Menopausal hot flashes
- Modulating sensory perception thresholds
- Neck pain (some types/non-whiplash)
- Obesity
- Peri-menopausal & post-menopausal insomnia
- Plantar heel pain
- Post-stroke insomnia
- Post-stroke shoulder pain
- Post-stroke spasticity
- Post-traumatic stress disorder
- Prostatitis pain/chronic pelvic pain syndrome
- Recovery after colorectal cancer resection
- Restless leg syndrome
- Schizophrenia (with antipsychotics)
- Sciatica
- Shoulder impingement syndrome (early stage) (with exercise)
- Shoulder pain
- Smoking cessation (up to 3 months)
- Stroke rehabilitation
- Temporomandibular joint disorder

In the largest study of its kind to date, 454,920 patients were treated with acupuncture for headache, low-back pain, and/or osteoarthritis in an open pragmatic trial. Effectiveness was rated by the 8,727 treating physicians as marked or moderate in 76% of cases.[10]

In a network meta-analysis comparing different physical interventions for pain from knee osteoarthritis, acupuncture was found to be superior to sham acupuncture, muscle-strengthening exercise, *tai chi,* weight loss, standard care, and aerobic exercise (in ranked order). Acupuncture was found to be more effective than muscle-strengthening exercises, with a statistically significant difference = 0.49, 95% CI [0.00–0.98].[11]

In early 2017, the American College of Physicians (ACP) published guidelines based on the evidence for the non-invasive treatment of low-back pain. For acute or subacute low-back pain, the ACP recommends non-pharmacologic treatment with acupuncture,

along with superficial heat, massage, or spinal manipulation, and nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants. For chronic low-back pain, the ACP also recommends acupuncture, in addition to exercise, multidisciplinary rehabilitation, mindfulness-based stress reduction, *tai chi*, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, and spinal manipulation, etc.[12]

A systematic review and meta-analysis on acupuncture for the treatment of sciatica reported that acupuncture was superior to standard pharmaceutical care (such as ibuprofen, diclofenac, and prednisone) in reducing pain intensity (mean difference (MD) = 1.25, 95% CI [1.63–0.86]) and pain threshold (MD = 1.08, 95% CI [0.98–1.17]). Effectiveness, pain intensity, and pain threshold scales were used.[13]

A systematic review and network meta-analyses of 21 different interventions for sciatica found that acupuncture was second in global effect only to biological agents. It was found to be superior to all other interventions including non-opioid and opioid medications.[14]

A systematic review on acupuncture and moxibustion for lateral elbow pain found moderate-level evidence that acupuncture and moxibustion were more effective than sham. It also found low-level evidence that acupuncture and moxibustion may be superior or equal to standard care.[15] A systematic review on acupuncture for plantar heel pain found that evidence supporting the effectiveness of acupuncture was comparable to the evidence available for standard care interventions such as stretching, night splints, and dexamethasone.[16]

The use of acupuncture to relieve pain associated with surgical procedures captured the world's attention in the early 1970s. When in China, well-known *New York Times* journalist James Reston witnessed acupuncture's effectiveness on his post-operative pain. He published his personal experience with acupuncture shortly before President Richard Nixon's trip to China.

Since then, reports in the scientific literature reveal that acupuncture has been used before, during, and after surgery to manage pain and to improve post-surgical recovery in a variety of contexts.[17-25] It is noteworthy to mention that acupuncture has been reported to be effective in pain relief during and after surgical procedures on children and animals as well.[19,20,26,27]

Nonetheless, over the past two decades in the U.S., post-operative pain management has come to rely increasingly on opioids, while underutilizing alternative analgesics such as acupuncture. In 2012, surgeons and dentists combined prescribed 16.2% of all opioids in the U.S., trailing only family practices as the leading source of opioid prescriptions at 18.2%.[28] Eighty to ninety-four percent of patients undergoing low-risk surgical procedures fill a prescription for opioids within seven days.[29,30]

Recent data has shown that opioid prescriptions vary widely and that the majority of surgical patients are over-prescribed opioids—approximately 70% of pills go unused.[31] The risk of chronic opioid use after surgery in previously non-dependent patients is determined to be 5.9%–6.5%,[32] although in select populations such as head and neck cancer patients, the risk is up to 40%.[33] The increase in post-operative opioid use is somewhat paradoxical considering that known adverse effects such as sedation, pneumonia,[34,35] ileus, urinary retention, and delirium prolong patient recovery and delay the meeting of discharge goals.[36]

Acupuncture has emerged as a promising adjunctive analgesic modality to reduce the risk of post-operative opioid dependence. A meta-analysis published in late 2017 in *JAMA Surgery* focused on non-pharmacological treatments in reducing pain after total knee arthroplasty. Thirty-nine RCTs were included in the meta-analysis (2,391 patients). Moderate-certainty level evidence showed that electrotherapy reduced the use of opioids (MD = −3.50; 95% CI, [−5.90 to −1.10] morphine equivalents in milligrams per kilogram per 48 hours; $P = 0.004$; $I2 = 17\%$), and that acupuncture delayed opioid use (MD = 46.17; 95% CI, [20.84–71.50] minutes to the first patient-controlled analgesia; $P < 0.001$; $I^2 = 19\%$). There was low-certainty level evidence that acupuncture improved pain (MD = 1.14; 95% CI, [1.90–0.38] on a VAS at 2 days; $P = 0.003$; $I^2 = 0\%$).

Evidence showed that acupuncture out-performed cryotherapy, continuous passive motion, and preoperative exercise in the studied condition.[37] Reduction in opioid use has been demonstrated across a wide range of both minor and major surgical procedures, including cardiac surgery,[38] thoracic surgery,[39] and craniotomy.[17,40]

Additionally, it was reported that acupuncture may even reduce post-operative ileus and expedite bowel recovery after colorectal cancer resection.[41] Acupuncture is often combined with electric stimulation, and electro-acupuncture may have added clinical benefit in post-operative pain management.

A Cochrane systematic review on acupuncture or acupressure for primary dysmenorrhea found that both acupuncture and acupressure were more effective in reducing pain than placebo controls.[42] Five other systematic reviews and/or meta-analyses on various forms of acupoint stimulation including acupuncture, acupressure, and moxibustion for primary dysmenorrhea have reported similar outcomes.[43-47]

The effectiveness of acupuncture for labor pain is still unclear, largely due to the heterogeneity of designs and methods in studies, which have produced mixed results. While some studies reported no reduction in analgesic medications, some studies reported reduction of pain during labor, reduced use of opioid medications and epidural analgesia, and a shorter second stage of labor.[48-50]

A systematic review of acupuncture for trigeminal neuralgia suggests that acupuncture may be equal to or superior to carbamazepine. However, the evidence is weakened by the low methodological quality of some included studies.[51]

A Cochrane systematic review on acupuncture for fibromyalgia found low-to-moderate certainty level evidence that acupuncture improves pain and stiffness compared with no treatment and standard therapy. Furthermore, electro-acupuncture is likely better than manual acupuncture for pain in fibromyalgia, although more studies with methodological rigor are warranted.[52]

A prospective, randomized trial of acupuncture vs. morphine to treat emergency department/emergency room patients with acute onset, moderate to severe pain was conducted. Acupuncture provided more effective and faster analgesia than morphine and was better tolerated. The study included 300 patients, with 150 patients in each group. Success rate was significantly different between the two groups (92% in the acupuncture group vs. 78% in the morphine group, $P < 0.001$).

Resolution time was (16 ± 8) minutes in the acupuncture group vs (28 ± 14) minutes in the morphine group ($P < 0.005$). Overall, 89 patients (29.6%) experienced minor adverse effects; of these, 85 (56.6%) were in the morphine group and only 4 (2.6%) were in the acupuncture group ($P < 0.001$).[53]

The above-mentioned meta-analysis included 29 trials and 17,922 patients with chronic pain conditions; data on longer-term follow up (available for 20 trials, including 6,376 patients) suggests that approximately 90% of the benefit of acupuncture relative to controls would be sustained at 12 months post-treatment. Patients can generally be reassured that treatment effects persist for some duration.[54]

2.2 Safety and feasibility of acupuncture for pain management

Strong evidence for the safety of acupuncture in chronic pain management comes from an open pragmatic trial involving 454,920 patients who were treated for headache, low-back pain, and/or osteoarthritis. Minor adverse events were reported in 7.9% of patients while only 0.003% (13 patients) experienced severe adverse events. Minor adverse events included needling pain, hematoma, and bleeding, while serious adverse events included pneumothorax, acute hyper- or hypotensive crisis, erysipelas, asthma attack, and aggravation of suicidal thoughts.[10]

In a prospective feasibility study, acupuncture was seen as feasible, safe, and acceptable in an intensive care unit setting by patients from diverse backgrounds.[55] A systematic review suggests that acupuncture performed by trained practitioners using clean needle technique is a generally safe procedure.[56] The medical literature also indicates that acupuncture may be used successfully on cancer patients for symptom management due to the low risks associated with its use.[57]

2.3 Cost-effectiveness of acupuncture for pain management

A systematic review of eight cost-utility and cost-effectiveness studies of acupuncture for chronic pain indicated that the cost per quality-adjusted life-year gained was below the thresholds used by the UK National Institute for Health and Clinical Excellence for "willingness to pay." The chronic pain conditions discussed in the systematic review included low-back pain, neck pain, dysmenorrhoea, migraine and headache, and osteoarthritis.[58]

A cost-effectiveness analysis of non-pharmacological treatments for osteoarthritis of the knee found acupuncture to be the most cost-effective option when analysis was limited to high-quality studies.[59] Using acupuncture for pain management, patients and insurers can save money and successfully manage their pain and other symptoms without the adverse risks associated with prescription medications.

A recent study from the Center for Health Information and Analysis, in response to a piece of Massachusetts legislation seeking mandated coverage for acupuncture for some conditions, found that full insurance coverage for acupuncture would increase an average insured member's monthly health insurance premium only by $0.38 to $0.76. Acupuncture was noted to save $35,480, $32,000, $9 000, and $4,246 per patient for migraine, angina pectoris, severe osteoarthritis, and carpal tunnel syndrome respectively.[60] Compared to the large fees associated with imaging, prescription medications and surgery for pain conditions, acupuncture proved extremely cost-effective.

The Acupuncture Evidence Project also enumerates those conditions for which they found evidence of acupuncture being cost-effective (Box 2).[61]

Box 2. Conditions with Demonstrated Evidence of Cost-Effectiveness

- Allergic rhinitis
- Low-back pain
- Ambulatory anaesthesia
- Migraine
- Chronic pain: neck pain (plus usual medical care)
- Depression
- Osteoarthritis
- Dysmenorrhoea
- Post-operative nausea and vomiting
- Headache

A 2015 study by Da Silva[62] published in the journal *Headache* showed acupuncture to be at least as effective as conventional drug preventative therapy for migraine and to be safe, long-lasting, and cost-effective. Another 2015 study by Liodden and Norheim[63] noted acupuncture to be potentially useful for post-operative pain and post-operative nausea and vomiting, and to be a low-cost intervention. A 2014 study by Spackman et al.[64] showed acupuncture to be cost-effective compared to counselling or usual care alone.

Two studies demonstrated acupuncture's cost-effectiveness for the treatment of low-back pain. A study by Taylor et al.[65] from 2014 showed that acupuncture as a complement to standard care for the relief of chronic low-back pain was highly cost-effective, costing around $48,562 per disability-adjusted life-year (DALY) avoided. It also found that when comorbid depression was alleviated at the same rate as pain, the cost was around $18,960 per DALY avoided. A study by Andronis et al.[66] also identified acupuncture as likely to be cost-effective for low-back pain.

2.4 Can adjunctive acupuncture treatment reduce the use of opioid-like medications?

Some studies have reported reduced consumption of opioid-like medication (OLM) by more than 60% following surgery when acupuncture is used.[67,68] A pilot RCT also showed a reduction by 39% in OLM use in non-malignant pain after acupuncture, an effect which lasted fewer than eight weeks after acupuncture treatment ceased.[69] The above mentioned meta-analysis, having moderate-certainty level evidence, showed that electro-acupuncture therapy reduced the use of opioids, and acupuncture delayed opioid use, with low-certainty level evidence indicating that acupuncture improved pain.[37] The conclusions suggest that electro-acupuncture may be effective in reducing or delaying the use of opioid medications.

In a study examining acupuncture's effectiveness in treating pain in a military cohort of 172 at a U.S. Air Force medical center, acupuncture dramatically decreased the use of opiates and other pain medications among personnel. Opioid prescriptions decreased by 45%, muscle relaxants by 34%, non-steroidal anti-inflammatory drugs by 42%, and benzodiazepines by 14%. Quality of life measures also showed impressive changes, with some measures of improvements showing statistical significance ($P < 0.001$).[70]

The Veterans Administration is increasingly looking to incorporate acupuncture into care, as is the U.S. Air Force and other military branches. Training of military physicians is increasing, and systems are being studied to further incorporate acupuncture. The military is rapidly incorporating this care into its offered services for service members.[71,72]

Studies of the effects of opioid analgesia in the elderly reveal a significant burden of disease due to falls from mental impairment. This is worsened when seniors are using multiple medications affecting cognition. In a recent study, serious falls as per Medicare Part A and B ICD/CPT codes were evaluated in 5,556 nursing home residents aged 65 or greater. Seniors taking > 3+ central nervous system (CNS) standardized daily doses were more likely to have a serious fall than those not taking any CNS medications (adjusted odds ratio = 1.83, 95% CI [1.35–2.48]), and the authors urge, "Clinicians should be vigilant for opportunities to discontinue or decrease the doses of individual CNS medications and/or consider non-pharmacological alternatives."[73]

A recent study in the *New Zealand Medical Journal* noted that medication-related harms were both common and created a substantial burden of disease for patients and the healthcare system. They listed opioids first among the six categories of medications causing the most significant burden.[74] In light of the findings of these studies and similar, utilization of non-pharmacologic treatment options such as acupuncture must be a priority of paramount status.

3. Acupuncture's analgesic mechanisms have been extensively researched and acupuncture can increase the production and release of endogenous opioids in animals and humans

Mechanisms underlying acupuncture's analgesic effects have been extensively researched for over 60 years. In animal models, acupuncture and/or electro-acupuncture has been shown to be effective for the alleviation of inflammatory, neuropathic, cancer-related, and visceral pain. Mechano-transduction of the needling stimulus at specific points on the body triggers the release of ATP and adenosine, which bind to local afferents.[75,76] Ascending neural pathways involving Aβ, Aδ, and C sensory fibers have been mapped (using techniques such as single fiber recordings with Evans blue dye extravasation), as have been a mesolimbic analgesic loop in the brain and brainstem, descending pathway mechanisms, dopaminergic contributors, and cytokine, glutamate, nitric oxide, and gamma-amino butyric acid (GABA) effects.

Acupuncture analgesia has been shown to involve several classes of opioid neuropeptides including enkephalins, endorphins, dynorphins, endomorphins, and nociceptin (also known as orphanin FQ). Among the non-opioid neuropeptides, substance P, vasoactive intestinal peptide, and calcitonin gene-related peptide have been investigated for their roles in both the analgesic and anti-inflammatory effects of acupuncture.[77-80]

Given that acupuncture analgesia activates the production and release of endogenous opioids and activates μ and δ opioid receptors, it is feasible that acupuncture used in conjunction with OLM might alleviate pain with a lower OLM dose for patients already taking OLM.[81] This idea is further supported by evidence that acupuncture increases μ opioid receptor binding potential, allowing for effective analgesia at lower doses of OLM.[82]

For patients not yet prescribed OLM, acupuncture should be recommended prior to OLM prescription commencing. This would be in-line with existing guidelines, such as those by the ACP[12] and the CDC,[83] which recommend that safe and effective non-opioid alternatives should first be exhausted before resorting to OLM.

It is important to note as well that opioids as a monotherapy are often not as successful as may be thought in the general public perception. A recent systematic review of opioid analgesics for low-back pain, which included 7,925 participants, found that opioids were poorly tolerated and for those who tolerate them the effect is unlikely to be clinically important within guideline recommended doses.[84]

The first ever RCT evaluating the long-term effectiveness of opioids, found that those on long-term opioid analgesia were actually in marginally more pain at 12 months than those in the non-opioid group.[85] Hence, complementary methods of pain control are critical to successful patient management.

4. Acupuncture is effective for the treatment of chronic pain involving maladaptive neuroplasticity

Adverse neuroplastic changes can present a challenge in pain management, as maladaptive neuroplasticity can be associated with severe chronic pain that is resistant to treatment. Via peripheral stimulation, acupuncture may relieve the symptoms of patients affected by problematic neuroplastic changes. There is evidence that acupuncture has the capacity to reverse adverse neuroplastic changes in the dorsal horns of the spine, as well as in the somatosensory cortex.[86-89] This suggests that acupuncture may have an important role in treating chronic pain which involves adverse neuroplastic changes.

5. Acupuncture is a very promising, already utilized adjunctive therapy in opiate dependency and rehabilitation

In 1973, Wen et al.[90] from Hong Kong published an accidental finding that ear acupuncture treatment for respiratory patients had apparently alleviated opioid withdrawal signs and symptoms. These findings were replicated by others around the world, including in New York and Sydney in the mid-1970s.

In 1985, Dr. Michael Smith and colleagues in New York established the National Acupuncture Detoxification Association (NADA), which today operates in over 40 countries with an estimated 25,000 providers. There are more than 1,000 programs in the U.S. and Canada that now use acupuncture to help addicts overcome their addictions.[91]

Evidence for acupuncture's role in addiction treatment has been found in both animal and human studies. In 2009, Hu et al.[92] found that electro-acupuncture in rats appeared to affect dopamine neurons in the ventral tegmental area, meaningfully improving the deleterious effects caused to this area by opioid medication. In 2012, Lee et al.[93] demonstrated that electro-acupuncture could be used to decrease drug-seeking behaviour in rats. As far back as 1978 it was demonstrated that acupuncture decreased biochemical markers of stress in heroin addicts compared to observational controls.[94]

In 2014, Chan et al.[95] demonstrated that acupuncture decreased the amount of morphine used by addicts in treatment and simultaneously improved sleep in the treatment subjects. Acupuncture for addiction is a versatile modality that can be effortlessly integrated into many environments including prisons, in- and outpatient programs, community centers, disaster relief, and humanitarian aid efforts. Furthermore, acupuncture addiction protocols can address acute and prolonged withdrawal symptoms, stress and anxiety related to drug withdrawal, and help prevent relapse. Using drugs to treat those already drug-addicted is not a rational plan of action, and finding sound, non-pharmacologic treatment options is of paramount importance.

A meta-analysis done in 2012 concluded that "the majority [of studies] agreed on the efficacy of acupuncture as a strategy for the treatment of opiate addiction" and that "neurochemical and behavioral evidence has shown that acupuncture helps reduce the effects of positive and negative reinforcement involved in opiate addiction by modulating mesolimbic dopamine neurons. Moreover, several brain neurotransmitter systems involving opioids and GABA have been implicated in the modulation of dopamine release by acupuncture."[96]

In a recent RCT involving 28 newborns with neonatal abstinence syndrome, laser acupuncture plus OLM significantly reduced the duration of oral morphine therapy when compared to OLM alone.[97] The mechanism for acupuncture in opiate withdrawal was found to be mediated by the endogenous opioid "dynorphin" binding to κ opioid receptors.[98] While considerable research on acupuncture's role in addiction is still greatly needed, long-standing and new data provide a sound foundation for that future research. Demonstration of trans-species effects with

multiple, plausible mechanisms and documented clinical efficacy in humans for opioid addiction specifically, coupled with vast, existing clinical precedent of use in this realm, argues strongly for acupuncture's likely value in this domain.

6. Acupuncture has been recommended as a first-line, non-pharmacologic therapy by the FDA as well as the NASEM in coping with the opioid crisis; the Joint Commission has also mandated that hospitals provide non-pharmacologic pain treatment modalities

In early May 2017, the U.S. FDA released proposed changes to its opioid prescription guidelines. Entitled a "Blueprint for Prescriber Education for Extended-Release and Long-Acting Opioids," the guidelines now recommend that doctors become informed about non-pharmacologic options for pain control to help avoid the overuse of opioids.[5] Per the FDA's request, the NASEM released a report to outline the state of the science regarding prescription opioid abuse and misuse as well as the evolving role that opioids play in pain management.

The new NASEM report on pain management and opioids recommends more public education, reimbursement models, and support for non-drug approaches to pain treatment. It systematically summarizes the evidence for acupuncture's clinical benefits in treating different pain conditions, and provides an overview of some of the basic science underlying acupuncture's mechanisms in pain management.[6]

In addition, effective January 1, 2018, the Joint Commission has mandated that hospitals provide non-pharmacologic pain treatment modalities.[7] Acupuncture is ideally suited to fulfil this mandate. These official, evidence-based clinical guidelines are in line with global healthcare trends. As of November 2015, acupuncture had over 870 recommendations in official clinical guidelines for over 100 conditions from institutions in over 30 countries.[99]

7. Among the most commonly recommended, non-pharmacological management options for pain relief, evidence supports acupuncture as the most specific and effective for opioid abuse and overuse

Several forms of non-pharmacological management options for acute and chronic pain have been examined, including physical therapy, spinal cord manipulation, yoga, *tai chi,* cognitive behavioral therapy, as well as others. Among those therapies commonly recommended by medical authorities, evidence supports acupuncture as the most specific in targeting the endogenous opioid system. There is more evidence that acupuncture can induce endorphins to cope with acute and chronic pain in basic research than for any other non-pharmacological approach for pain.[12,37,53,60] Other mechanisms for acupuncture's effects have also been discussed above.

8. Acupuncture is widely available from qualified practitioners nationally

In 2013, more than 28,000 licensed acupuncturists were estimated to be practicing in the U.S., with many more in training.[100] A 2015 study found the number of trained licensed acupuncturist practitioners to be approximately 34,400. This number was noted to have increased by 23.3% and 52.1% compared to the years 2009 (n = 27 965) and 2004 (n = 22 671) respectively, increasing about 1,266 per year.[101] Currently, the Council of Colleges of Acupuncture and Oriental Medicine has 57 schools in its membership,[102] with approximately ten schools offering doctoral degrees.

The National Certification Council for Acupuncture and Oriental Medicine has certified more than 18,000 practitioners for minimal competency.[103] The practitioners emerging from this educational and testing infrastructure are the most highly trained in Chinese medicine as a complete system, and the training capacity is vastly underutilized. This system could produce many more practitioners were demand increased.

The American Academy of Medical Acupuncture also represents more than 1,300 medical doctors trained to offer acupuncture services and has approved nine programs for medical doctor certification in acupuncture.[104] One certification program alone has trained more than 6,000 physicians in medical acupuncture,[105] so a conservative estimate of the total number of physicians trained would be approximately 10,000, though the number actively practicing acupuncture is unknown.

Most states allow physicians to practice acupuncture, with some specifying additional training.[106] Increased coverage and demand for acupuncture will lead to a greater supply of providers as well. As noted above, NADA providers are estimated at 25,000 individuals, with more than 1,000 programs in the U.S. and Canada.

Appendix 1. Effectiveness of Acupuncture

Author, Year	Topic/Intervention	Participants/Population	Primary Outcomes	Key Findings	Study Quality
Vickers et al., 2012[9]	Acupuncture versus sham acupuncture and non-acupuncture in back, neck and shoulder pain, chronic headache, and osteoarthritis	Systematic review of 31 RCTs (17,922 subjects) and meta-analysis of individual patient data from 29 of these 31 RCTs in back, neck and shoulder pain; chronic headache; osteoarthritis	A variety of pain severity and disability scores such as VAS, WOMAC, Roland Morris Disability Questionnaire	Acupuncture was superior to sham acupuncture and non-acupuncture for each pain condition	High-quality evidence
Weidenhammer et al., 2007[10]	Acupuncture for headache, low-back pain, and osteoarthritis	Open pragmatic trial of 454,920 subjects with headache, low-back pain, and osteoarthritis	Treating physician rating of "marked, moderate, minimal or poor improvement (which included no improvement and worse)"	Physician ratings: 22% marked, 54% moderate, 16% minimal and 4% poor improvement	Low-quality evidence—open pragmatic trial with no blinding and no external assessors
Corbett et al., 2013[11]	Comparison of 22 physical therapies for knee osteoarthritis pain	Review of 152 trials and network meta-analysis of 12 RCTs with low risk of bias comparing 22 physical therapies in knee osteoarthritis pain	Knee pain	Acupuncture was equal to balneotherapy and superior to sham acupuncture, muscle-strengthening exercise, *Tai Chi*, weight loss, standard care and aerobic exercise (in ranked order)	110 of 152 studies analysed were of poor quality. Network meta-analysis included 12 RCTs with low risk of bias
Ji et al., 2015[13]	Acupuncture versus standard pharmaceutical care in sciatica	Systematic review and meta-analysis of 12 RCTs in sciatica	Effectiveness, pain intensity, and pain threshold	Acupuncture was superior to standard pharmaceutical care in effectiveness, reducing pain intensity and pain threshold	Low-to-moderate quality evidence
Lewis et al., 2015[14]	Comparison of 21 different interventions for sciatica	Systematic review and network meta-analyses of 122 studies including 90 randomized or quasi-randomized controlled trials comparing 21 different interventions for sciatica	Global effect, and pain intensity	In global effect and reduction in pain intensity, acupuncture was second only to biological agents (cytokine-modulating drugs), and superior to all other interventions tested including non-opioid and opioid medications	9% of studies had a strong overall quality rating; 7% of studies had a strong overall external validity rating; 21% of studies used both adequate randomization and adequate or partially adequate allocation concealment
Gadau et al., 2014[15]	Acupuncture and/or moxibustion versus sham acupuncture, another form of acupuncture, or conventional treatment in lateral elbow pain	Systematic review of 19 RCTs	Pain, and grip strength	Acupuncture is more effective than sham acupuncture (moderate-quality studies); acupuncture or moxibustion is more effective than conventional treatment (low-quality studies)	Low-to-moderate quality evidence
Cho et al., 2015[20]	Real versus sham acupuncture in acute post-operative pain after back surgery	Systematic review and meta-analysis of 5 trials	24-hour post-operative pain intensity on VAS; 24-hour opiate demands	Real acupuncture was superior to sham in reducing pain intensity but not opiate demand at 24 hours	3 of 5 trials were high quality
Levett et al., 2014[48]	Acupuncture, standard care, sham acupuncture, acupressure and mixed controls in various combinations in labor pain	A critical narrative review of 4 systematic reviews in labor pain	Pain intensity, analgesic use, and length of labor	Acupuncture reduces pain intensity, analgesic use and length of labor	Conflicting evidence

Appendix 1. Effectiveness of Acupuncture continued

Author, Year	Topic/Intervention	Participants/Population	Primary Outcomes	Key Findings	Study Quality
Clark et al., 2012[16]	Acupuncture versus various comparators including standard care, sham acupuncture and other forms of acupuncture in plantar heel pain	Systematic review of 5 RCTs and 3 non-randomized comparative trials	Various pain and disability scales (morning pain, walking pain, and tenderness)	Acupuncture for plantar heel pain is supported by evidence which is equivalent to evidence supporting standard care (stretching, splints, and dexamethasone)	Evidence at levels I and II supporting the effectiveness of acupuncture for heel pain, leading to a recommendation at Grade B
Deare et al., 2013[52]	Manual and electro-acupuncture compared with sham acupuncture, standard therapy and no treatment in fibromyalgia	Cochrane systematic review of 9 RCTs in fibromyalgia	Pain, stiffness, sleep, fatigue and global wellbeing	Acupuncture improves pain and stiffness compared to standard therapy and no treatment, but not compared to sham acupuncture	Low-to-moderate quality evidence
Smith et al., 2011[42]	Acupuncture or acupressure versus placebo control, usual care or pharmacological treatment in primary dysmenorrhea	Cochrane systematic review of 10 RCTs (944 subjects) on acupuncture (6) or acupressure (4) for primary dysmenorrhea	Pain relief, analgesic use, quality of life, improvement in menstrual symptoms, and absenteeism	Acupuncture was superior to placebo and Chinese herbs in pain relief, and superior to medication and Chinese herbs in reducing menstrual symptoms. Acupressure was superior to placebo in pain relief and reducing menstrual symptoms	Low risk of bias in 50% of included RCTs
Abaraogu et al., 2015[43]	Acupuncture or acupressure versus placebo control, wait list or pharmacological treatment in primary dysmenorrhea	Systematic review of 8 RCTs (> 3,000 subjects) and meta-analysis of 4 RCTs	Pain intensity (VAS, McGill scale), quality of life, and blood nitric oxide	Acupuncture and acupressure reduced pain, while acupuncture also improved quality of life	Moderate quality evidence
Chen et al., 2013[47]	Acupuncture or acupressure at acupoint SP 6 versus minimal stimulation at SP 6 or stimulation of another point in primary dysmenorrhea	Meta-analysis of acupuncture (3) and acupressure (4) RCTs in primary dysmenorrhea	Pain intensity (VAS)	Acupuncture is effective and acupressure may be effective at SP 6 for pain relief	Acupuncture trials had low-to-moderate risk of bias; acupressure trials had high risk of bias
Cho et al., 2010[44]	Acupuncture versus sham acupuncture, pharmacological treatment or Chinese herbs in primary dysmenorrhea	Systematic review of 27 RCTs in primary dysmenorrhea	Pain intensity (VAS, Menstrual Pain Reduction Score, and other pain scores)	Acupuncture was superior to pharmacological treatment or Chinese herbs in pain relief	Only 5 out of 27 trials had low risk of bias
Chung et al., 2012[46]	Acupoint stimulation versus non-acupoint stimulation or medication in primary dysmenorrhea	Systematic review of 30 RCTs (> 3,000 subjects) and meta-analysis of 25 RCTs	Pain intensity, and plasma prostaglandin F2/ prostaglandin E2 ratio	Acupoint stimulation was superior in short-term pain relief to stimulation on non-acupoints. Non-invasive stimulation of acupoints was more effective than invasive stimulation	Some trials were of low quality
Xu et al., 2014[45]	Various forms of acupoint stimulation (including acupuncture, moxibustion and other methods) versus a variety of controls in primary dysmenorrhea	Meta-analysis of 20 RCTs (2,134 subjects) of acupoint stimulation for primary dysmenorrhea	Pain relief	Acupoint stimulation was more effective than controls for pain relief	Low-to-moderate quality evidence

RCT: randomized controlled trial; VAS: Visual Analog Scale; WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index. There is currently debate within the scientific and academic communities on how to perform high-quality studies on acupuncture. It is widely recognized that standards applied to drug trials are inappropriate for acupuncture studies, as it is impossible to effectively blind patients to treatment with acupuncture as can be done with medications. Hence, this literature review, adhering to standards for drug studies, may undervalue some existing studies, and hence the strength of acupuncture for care may also be underestimated.

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10. Competing interests

The authors declare that they have no competing interests. Comments or corrections are welcomed and appreciated. Email David W. Miller, MD, AAP, LAc: eastwestkiddoc@hotmail.com

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Case Report

Pain Management Using Acupuncture and Herbs for Rheumatoid Arthritis

By Jennifer Moody, Dipl OM (NCCAOM), LAc

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Abstract

Rheumatoid arthritis is a chronic, disabling autoimmune disease which damages the peripheral joints. This damage leads to progressive destruction of articular structures, usually accompanied by systemic symptoms. This case study presents a 68-year-old female diagnosed with rheumatoid arthritis. She complained of pain and stiffness during her limited daily activities. She was treated with acupuncture, electro-acupuncture, topical single herb essential oil applications, herbs, and dietary recommendations. After four months of treatments, her joint swelling significantly decreased and she no longer needed her walker. Her pain level decreased from 9/10 to 6/10. By the third week, swelling in her hands decreased and her pain level dropped down to 5/10. She had an increase in energy, joined in more social activities, and began to exercise daily. She discontinued Prednisone, originally prescribed by her primary care physician and taken during the acupuncture treatments, herbal oil applications, and dietary modifications. This study indicates that these combined approaches have the potential to address rheumatoid symptoms, including pain and side effects of prescription medications. Acupuncture and Oriental medicine may be a useful adjunctive therapy to anti-inflammatory drugs. More randomized controlled trials are needed to investigate the efficacy of acupuncture to treat rheumatoid arthritis.

Key Words: Rheumatoid arthritis, pain management, acupuncture, electro-acupuncture, Boswellia

Introduction

Biomedicine

Rheumatoid arthritis (RA) is a chronic disabling autoimmune disease that primarily affects the joints. RA causes inflammatory damage symmetrically to peripheral joints, which leads to progressive destruction of articular structures, usually accompanied by systemic symptoms. Diagnosis is based on specific clinical, laboratory, and imaging findings.[1,2,3,4]

Although RA involves autoimmune reactions, its exact cause is unknown—many factors may contribute. Prominent abnormalities include immune complexes produced by synovial lining cells and in inflamed blood vessels. A genetic predisposition has been identified as excessive expression of class II HLA antigens. Unknown or unconfirmed environmental factors, such as viral infections from Epstein-Barr virus (EBV) and cytomegalovirus (CMV) are thought to play a role in triggering and maintaining joint inflammation.

RA affects about 1% of the population; women are affected two to three times more often than men. Onset may be at any age, most often between 35 and 50 years but can present during childhood or old age.[1,5]

The course of RA is unpredictable. Systemic symptoms can include early morning stiffness, afternoon fatigue, weakness, anorexia, and occasionally a low-grade fever. Joint symptoms include pain, swelling, and stiffness. The disease progresses most rapidly during the first six years, with 80% of patients developing some form of permanent joint abnormalities.[6]

Joint stiffness may also occur after any prolonged activity. Affected joints become tender, erythematous, warm, swollen, and have limited range of motion. The joints primarily involved include metatarsophalangeal joints, proximal interphalangeal joints, wrists, 2nd & 3rd metacarpophalangeal joints (wrists), elbows, shoulders, knees, ankles, upper cervical spine, and hips.[1,3,7]

Subcutaneous rheumatoid nodules eventually develop in up to 30% of patients, usually at sites of chronic irritation, while visceral nodules occur in severe RA. Despite full treatment, at least 10% of patients eventually become quite disabled. Many other RA complications can arise, including but not limited to vasculitis, pleural or pericardial effusions, pulmonary infiltrates or fibrosis, pericarditis, myocarditis, lymphadenopathy, GI bleeding, infections and Sjögren syndrome, which can decrease life expectancy by three to seven years.[1,7]

Conventional treatment of RA involves pharmaceutical drugs, rest, exercise, and sometimes surgery. Typical drugs used for treatment include NSAIDs, disease-modifying anti-rheumatic drugs (DMARDs), corticosteroids, biologic agents, and immunomodulatory, cytotoxic, and immunosuppressive drugs.[1,2,5,8] However, many cannot be used long term, are toxic, and/or have adverse effects.[7] Joint splinting, heat and cold therapy, orthopedic shoes, and metatarsal supports are used to reduce pain in some peripheral joints.[1]

Arthroplasty with prosthetic joint replacement is used if damage limits function of the joint. Excision of painful metatarsophalangeal joints, thumb fusions, neck fusion at C1-2 are examples of surgeries done. Surgery may relieve joint inflammation but only temporarily unless disease activity can be controlled.[1]

Acupuncture and Oriental Medicine

RA is one type of rheumatic disease. It is known in modern Chinese medicine as *lei feng shi xing guan jie bing*, which means "Wind Dampness-like type of joint disease." It is usually given the traditional Chinese medicine (TCM) diagnosis of *bi* syndrome, which means obstruction caused by pathogens, which creates blockage in the channels.[5,6,10,11] These blockages interfere with the ability of *qi* and Blood to travel through the channels smoothly, thus hindering the function of warming and nourishing the joints and extremities. With more serious chronic conditions, underlying deficiencies can manifest and further damage the overall health. Clinically, RA symptoms are pain and stiffness of the hands and feet.

Chinese herbs, acupuncture, and massage have been reported to have various degrees of effect on the quality of life of RA patients. Acupuncture has been shown relieve pain and expand joint motion mainly correlated with the possible modulation of the immune system, the nerve system, and the endocrine system.[2]

The mechanisms of acupuncture's analgesic effect are still unclear. Acupuncture has been theorized to work either by releasing chemical compounds that relieve pain, by overriding pain signals in the nerves, or by allowing energy (*qi*) or blood to flow freely through the body.[6] There are a number of studies that indicate acupuncture may contribute specifically to joint pain relief through multiple pathways. These include the stimulation of specific fibers on the skin and muscle, the release of endogenous opioid peptides (EOPs) as well as anti-inflammatory substances or other neurotransmitters involved in pain suppression.

One study indicated that serum levels of interferon-y (IFN-y), interleukin-2 (IL-2), interleukin-4 (IL-4) and interleukin-6 (IL-6) were enhanced, along with reduction level of TNF-x, in RA patients after acupuncture treatment. It has also been shown that the production of anti-inflammatory cytokines such as interleukin-10 (IL-10) increased with acupuncture as well.[2,5]

Electro-acupuncture (EA) has long been used for pain-related conditions. A study on electromagnetic millimeter waves on acupuncture points typically used for RA was done on RA subjects and results it relieved pain and inflammation.[2,4,5,12] This study suggested that where acupuncture can be beneficial, EA may be even more beneficial in reducing pain alone.

Several Chinese herbs have been researched for the treatment of RA symptoms, such as *Lei Gong Teng* (Tripterygium wilfordii Hook F), *Dào shǒu xiāng* (Plectranthus amboinicus) and *Ru Xiang* (Boswellia).[2,5,10,13,14,15] Boswellia (frankincense) is used in many acupuncture and Oriental medicine (AOM) herbal formulas for pain management, often combined with *Mo Yao* (myrrha).

Depending on its use either internally or topically, there are different methods of preparation for this herb. It activates blood circulation, relieves pain, reduces swelling and inflammation, promotes generation of flesh and heals ulcerations, thus demonstrating analgesic effects in humans.[16,17]

Studies have been done indicating benefits of using Boswellia for reduction in joint swelling, increased mobility, less morning stiffness, improved grip strength, and general improvement in quality of life for patients with both osteoarthritis and rheumatoid arthritis. Boswellia is an effective anti-inflammatory and anti-arthritis agent, which has pain-relieving and sedative qualities.[18,19]

Boswellia has been tested using oral administration in in-vitro studies, including clinical trials, with promising anti-inflammatory effects. No adverse effects have been noted thus far in trials. Because it is so well tolerated, current data thus suggests Boswellia may be a promising alternative to NSAIDs.[20]

Case Description

In 2001, a 68-year-old, female, retired parole officer diagnosed with idiopathic RA presented to the clinic. Her ambulation was limited and she required assistance when getting on and off the treatment table. Her hands, in particular, and her feet were swollen, with red, hot knuckles on palpation. She had tension and aching in the muscles and all major joints, especially hands, knees and feet. The pain was worse without movement but also with excessive use.

She complained of fatigue, insomnia, breathing problems with constant nasal congestion, sleep apnea, allergies, asthma, and edema in the legs. Her biggest concerns were her low energy level and her lack of ability to walk her dogs and ride a bike, along with wanting to reduce overall pain and stiffness.

At the first visit her subjective temperature was hot and her face was extremely red in color. She reported she felt hot all of the time and had night sweats primarily all over her head. During hot flashes her face turned somewhat red; she seated profusely on the top of her head and her forehead. Her fatigue severely limited her daily activities.

Her appetite was low to moderate; her diet consisted mainly of carbohydrates and sugar. She had frequent sugar cravings and disliked vegetables. She tended towards constipation, but with the use of daily natural laxatives she was able to have one to two daily bowel movements. She had a tendency toward sinus congestion, excessive thick yellow and odorous leucorrhea, candida, fibroids, and eczema.

Her complexion was pale although she had facial redness. She also had hot flashes, edema in legs, and a puffy and overweight body. She had patches of eczema on the legs and arms and dry skin on the hands, legs, and feet, which had thick dry cracked soles. There was a scar from previous surgeries down the center of the low abdomen along the Ren channel from Ren 10 to Ren 3.

The tongue was dusky red with a puffy center and dry thick white coat in the back. Sublingual veins presented at a +3 distention out of 5. The pulse was rapid yet submerged over all with a deep and weak quality. In assessment, the diagnosis given was *bi* syndrome and fatigue with the pattern differentiation Wind-Heat-Damp with Kidney *yang* deficiency, Spleen deficiency, and Phlegm accumulation. The patient's pattern differentiation and treatment principles are included in Table 1.

Table 1. Pathophysiology: Pattern Differentiation and Treatment Principle

	TCM Diagnosis	Signs & Symptoms	Treatment Principle
Excess	*Bi* Syndrome (Wind Damp *bi*)	Painful, stiff and deformed joints of the hands, arms, feet and legs; soreness and swelling in muscles and joints, with a feeling of heaviness and numbness in the limbs. Pain moves joint to joint. Worse with pressure. Aggravated by damp weather. Tongue: dusky red, puffy center, dry yellow coat; Pulse: slippery, rapid, and submerged	Dispel pathogenic Wind, Heat and Damp; remove obstruction in channels; stop pain
	Heat *bi* Transforming Heat-damaging *yin*	Started with severe pain and hot-red-swollen joints. Difficulty of movement affecting 1+ joints. Hot flashes day and night; thirst for cold drinks; Tongue: dusky red with yellow or yellow slimy coat; Pulse: thin, rapid	Eliminate Damp; clear Heat/ remove obstruction in channels; stop pain
	Kidney Yang Xu	Fatigue; water retention; pain in major joints; Tongue: moist coat; Pulse: soft and submerged	Warm and circulate the channels and collaterals; warm the kidney and benefit the bones
Deficiency	Sp Qi Xu with Dampness and Phlegm Accumulation	Eczema, leucorrhea, candida, nasal congestion, sleep apnea; Tongue: puffy, pale, thick white center coat; Pulse: submerged overall	Boost *qi;* nourish Blood; transform Damp

Her health history included breast cancer—one breast was removed in 1992 without chemotherapy or radiation. Her other major surgeries included cholecystectomy (2009), left knee replacement (2007), major car accident in with four spinal surgeries and a major concussion (1998), eye surgery (1970), and tonsillectomy (1953).

Treatment

This patient received a total of 26 treatments over a four month period at an AOM college clinic. Treatment strategy was amended after the tenth treatment because the patient did not see acceptable improvement. The improvement rate was based on subjective findings from the patient, which include her ability to open and close her hands, grip, use a walker, walk, and actively take part in daily living tasks.

All acupuncture treatments were supine until patient was able to move around with more ease; prone treatments were then added every other week. All points were needled with DBC 20 x 30 needles, with depth depending on the point. Ba Xie points were the exception, needled more aggressively, with about 1-1.5" depth insertion. Direct moxibustion (rice grain-sized piece of moxa heated on moistened skin and removed prior to burning) was administered at selected points.

Electro-stimulation was used on Ba Xie points at 2 hz/100 hz mixed setting for 15-20 min. If, on removal of the needles there was a drop of blood, it was left in until bleeding stopped to assist in moving and cooling Blood. This was the case for the first few treatments, then there was no longer any bleeding upon removal of the needle.

There were equally important co-existing diagnoses for this chief complaint of RA. Clearing of the Heat initially was prioritized. Once the excess Heat was cleared, the function of the middle *jiao* and Kidneys were further simultaneously prioritized.

Table 2. Points Used

	Tong Tian BL7	For nasal obstruction: subdues Wind, clears the nose
	He Gu LI4	For metacarpohalangeal joint; swelling and pain; nasal obstruction: dispels Wind; releases and consolidates the exterior; suppresses pain; removes obstructions; tonifies *qi*
Additional points, when supine was added	Shou San Li LI10 (rice grain moxa), Zhong Wan CV12, Xia Wan CV10	Disperses Cold; tonifies SP/ST; eliminates Dampness
Root Treatment (prone)	Fei Shu BL13 (rice grain moxa)	Regulates LU *qi*; stimulates dispersing and descending of LU KI; regulates the nutritive and defensive *qi*; tonifies LU *qi*; clears Heat
	Ge Shu BL17 (rice grain moxa)	Nourishes and invigorates the Blood; opens and removes obstructions from the diaphragm/chest; soothes the ST *qi*; tonifies the *qi* and Blood; clears Heat; calms the mind
	Pi Shu BL20	Strengthens the SP/ST; resolves Damp; nourishes the Blood
	Shen Shu BL23	Tonifies the liver and kidney; stregthens the sinews and bones
	Ming Men DU4 (rice grain moxa)	For stiffness of the back: tonifies *ki yang*; nourishes *yuan qi*; benefits *jing*
For the metacarphohalangeal joint	Yang Chi TB4, Hou Xi SI3, Tai Chong LV3	12/13/17
For the metatarsal joint	Shu Gu BI65, Tai Bai SP3, Tai Chong LV3	(instead of Ba Feng) For toe pain, redness and swelling of dorsum of the foot: clears Heat; reduces swelling
Added towards the last treatments to support the middle *jiao*	Gong Sun SP4	Strengthens SP/ST; removes obstructions
	Yin Ling Quan SP9	Resolves Damp; removes obstructions; benefits lower *jiao*
	Shou San Li LI10	Removes obstruction for *bi* syndrome
	Qiu Xu GB40	Promotes the flow of *qi*

Herbs

After the third treatment by this practitioner, she was prescribed Gui Zhi Shao Yao Zhi Mu Tang (Cinnamon Twig, Peony and Anemarrhena Decoction) Plum Dragon brand. Although more than a month passed before she tried it, when she did, she first ingested it in granular form but switched to bulk due to sensitivity to the granular form. When the patient reported not feeling well while taking these herbs, she was instead given Si Miao Wan (Four Marvels Teapills) Plum Flower brand.

She inconsistently took the herbs, averaging eight pills once a day. She was also given frankincense essential oils (Snow Lotus brand, without a carrier oil) for topical application over swollen achy joints. She put three drops on each hand and rubbed it into her knuckles. It was noted that when the oil was applied

before leaving the clinic, the achiness and swelling that occurred after the treatment no longer occurred.

Dietary Recommendations

The patient was put on an elimination diet; allergen foods were eliminated for 6-8 weeks. Once certain foods were removed from her diet for the required length of time, one allergen type food item was added each following week. She was told to eat that item at least three times per day.

After the elimination diet was discontinued, she kept a food diary, noting to observe any congestion, inflammation, swelling or pain. Diet suggestions included cold water fish, such as herring, mackerel and salmon. The omega-3 fatty acids found in fish oil was the most promising anti-inflammatory addition in the diet, especially for her joints. Studies have shown that with regular use, a significant reduction in joint pain, morning stiffness, the number of tender joints was evidenced and that she could reduce her daily intake of NSAIDs.[5, 21]

Results

As indicated in Table 3, from week to week, the patient's RA symptoms showed overall improvement. She first received only electro-acupuncture treatments, then alternated every other electro treatment with manual acupuncture. Electro-acupuncture was discontinued when minimal benefit was indicated with its use. Having observed sugar and dairy as primary triggers, she eliminated these from her diet and lost 20 pounds.

Before beginning acupuncture treatments, the patient reported swelling in her hands seven days a week. By the second week, this reduced to 2-3 days a week. As her treatments continued, the patient's pain level dropped from 6/10 to 3/10. She also experienced nightly hot flashes less often.

Midway through her treatment regimen, on her own, the patient abruptly ceased taking Prednisone maintenance (5-10 mg/day), with no complications. This occurred when electro-acupuncture was switched to manual-only acupuncture, with no additional stimulation beyond insertion of the needles. By the end of April she reported she felt "50% better," and she was able to add more activities to her life. While excess Heat signs were resolved, the underlying Cold signs from *yang* deficiency started expressing, such as a subjective cold temperature, diarrhea, and a wet tongue coating.

At the conclusion of her treatments, her swollen joints had improved and use of a walker was no longer needed. She still complained of minimal stiffness in her hands first thing in the morning but she noted this decreased when she flexed them. Overall, she had more energy, was able to participate in more social activities, and she was able to exercise daily. She no longer took Prednisone, which she had taken for many years.

Continued on page 45

Table 3. Treatment Results

Treatment Time Frame	Length of Time	Modality	Clinical Result Related to RA Syptom	Other Clinical	Pain Scale
March 2015	Two Weeks	Electro-Acupuncture	After 1st visit, able to get on/off table w/ minimal effort; no walker needed. Week 2: Swelling in hands reduced from 7 days/wk to 2-3 days/wk		9/10 during 1st 2 weeks
	Two Weeks	Alternated between Acupuncture & Electro-Acup	Pain & range of activities improved weekly		
End of March		Elimination Diet	Lost 20 lbs.		
End of April	Beg. of March to End of April = Ten Weeks of Treatment	Manual Acupuncture Only	Feet subjectively 50% better; able to walk 6 blocks; added aqua aerobics and *tai chi*	Hot flashes minimalized; Leucorrhea minimalized (no color, no oder present), eczema symptoms gone; hand heat gone; hand swelling minimal; excess Heat signs resolved	3/10
June	Two weeks on, two weeks off		Stiffness worse with cold and lack of movement only; better with dry heat		
July 2015	Two Weeks		Stiffness only in morning upon waking; better with movement	Overall: No night sweats, subjective temp. neutral w/ no excess Heat signs	Minimal to none

Treatment Plan: 1. Two times per week for 8 weeks 2. One time per week for 12 weeks

Society for Integrative Oncology 14th International Conference: A Report

By Zeyiad Elias, DAOM, RAc

Zeyiad Elias, DAOM, RAc received his master's degree from the Pacific College of Oriental Medicine, Chicago, and his doctorate from Bastyr University, where he specialized in integrative oncology and conducted laboratory research involving Chinese herbs and cancer. Zeyiad is currently on staff at the Henry Ford Hospital system in Detroit, Michigan. He is a member of the board of the American Society of Acupuncturists.
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The Society for Integrative Oncology (SIO) held their 14th annual conference November 12-14, 2017, in Chicago, Illinois. It was co-hosted by Northwestern University's Osher Center for Integrative Medicine and the Robert H. Lurie Comprehensive Cancer Center.

Jun Mao, MD, MSCE

The conference, "Person-Centered Care in Integrative Oncology," was attended by over 300 people from 18 different countries. Participants were researchers, clinicians, teachers, and administrators as well as patient advocates. SIO President Jun Mao, MD, MSCE welcomed the attendees.

Dr. Debu Tripathy, professor and chairman of the Breast Medical Oncology department at the MD Anderson Cancer Center, spoke on the topic, "Understanding Systems Medicine through Systems Biology." An apropos kickoff to the conference, Dr. Tripathy utilized an omics perspective connecting the worlds of conventional and traditional medicines within oncology. He described the similarities and influences that each have on the other—illustrative of a truly integrative approach to cancer care. This was further fleshed out by the merging of his experience as a medical oncologist and his research with a traditional Tibetan medicine physician, Dr. Yeshi Dhonden.

Debu Tripathy, MD

Drs. Elena Ladas, Matthew Ciorba, and Robert Chapkin comprised the panel of the first plenary, "Natural Products and Diet on the Microbiome and Cancer." The discussion included the feasibility of probiotics in children and adolescents undergoing hematopoietic cell transplantation, the efficacy of probiotics in cancer therapy induced diarrhea, and the use of dietary bioactives to reduce the risk of colon cancer.

Notable takeaways included the observation that probiotics may have a role as a radio-protectant and that a combination of fish oils and fermentable fibers can dramatically reduce colon cancer. During lunch, former SIO president, Dr. Stephen Sagar spoke about why

Official SIO Definition of Integrative Oncology:

> "Integrative oncology is a patient-centered, evidence-informed field of cancer care that utilizes mind and body practices, natural products, and/or lifestyle modifications from different traditions alongside conventional cancer treatments.
>
> Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the cancer care continuum and to empower people to prevent cancer and become active participants before, during, and beyond cancer treatment."

medical schools should be teaching integrative health. This topic reinforced the systems model and the integrative approach to oncology in Dr. Tripathy's keynote.

Dr. Margaret Chesney, distinguished professor of medicine at the University of California, San Francisco, spoke on "Integrative Oncology: The Catalyst and Bellwether for Integrative Medicine and Health." She presented an historic evolution about of integrative medicine, positing that cancer has been the engine behind this direction. She also noted that research shows the United States ranks 27 out 35 countries in life expectancy despite having the highest health care cost per capita.

Summarizing a statement made after a 2009 summit on integrative medicine and public health by then-president of the Institute of Medicine Dr. Harvey Feinberg, Chesney said, "We don't have a health care system. We have a disease-driven system that is fragmented, that is reactive, and that is impersonal." With additional research indicating a growing trend of hospitals offering integrative services and that 85% of patients are demanding integrative therapies, she emphasized that now is an opportune time to advance their impact. Moved by the experience of helping her husband battle lymphoma and her continued work in the field, Dr. Chesney's commitment to the advancement of integrative medicine was inspiring.

"The American Society of Acupuncturists congratulates the Society of Integrative Oncology for a successful and informative conference. Workshops such as "When Personalized Traditional Chinese Medicine Meets Integrative Oncology: A U.S.-China Conversation" led by Dr. Ting Bao highlight the importance of international collaboration to learn from one another and to share treatment strategies. The clinical pearl I received from this all-female panel was the use of TCM herbal foot soaks with marbles for those patients with neuropathy. With increasing public and professional interest, the ASA will continue to collaborate with SIO to further promote acupuncture and East Asian medicine as vital integrative services in healthcare of all our patients!"

—LiMing Tseng, Secretary, American Society of Acupuncturists, Acupuncturist, Stowe Acupuncture, Stowe, VT

The second plenary, presented by the panel of Drs. Abby Rosenberg, John Salsman, and Crystal Park, was titled "Meeting the Integrative Oncology Needs of Young Adult Cancer Patients." Dr. Rosenberg provided a brief history of adolescent and young adult oncology and looked at whether resilience is a factor that can offset the impact of serious illness. Dr. Salsman followed with a presentation of his preliminary results of a web-based positive emotion intervention for young adult cancer survivors. Dr. Park closed the plenary by discussing the mirroring mechanisms and effects of yoga for adolescent and young adult cancer survivors. They each stressed that adolescent and young adult cancer patients have distinct and different needs from adults, both physically and psychosocially.

I attended an evening presentation of a series of abstracts on traditional Chinese medicine (TCM) and acupuncture. Dr. Dongmei Chen, a PhD student at the Beijing University of Chinese Medicine, initialized the session by presenting her in-vivo research on the effects of Liujunanwei (LJAW) decoction on Cisplatin-induced nausea and vomiting. The research indicated that LJAW positively modifies the intestinal microflora to reduce it. Michael McCulloch, a San Francisco-based acupuncturist, presented on whether or not acupuncture can reduce hospitalization risk and length of stay during outpatient chemotherapy. His study of 661 patients found that acupuncture helped reduce hospitalization risk by 12% and length of stay by two days, both of which were statistically significant.

Dr. Xin Wang of the MD Anderson Cancer Center presented results of a randomized, double-blind controlled trial on whether or not the Chinese formula Renshen Yangrong Tang (RSYRT) can reduce cancer-related fatigue. It demonstrated significant statistical and clinical improvement in cancer survivors with moderate to severe fatigue. Dr. Ting Bao of Memorial Sloan Kettering then presented her team's RCT on acupuncture for breast cancer-related lymphedema (BCRL). Intriguingly, it followed a pilot study by Cassileth et al. from 2013. Both trials studied the effects of acupuncture by

needling into lymphedematous tissue—a generally frowned upon practice due to risk of infection. While Cassileth's pilot found that acupuncture may reduce lymphedema, Dr. Bao's study did not.

The session concluded with Dr. Nozomu Kawashima of Nagoya University Hospital in Japan. He assessed the effectiveness of the Kampo formula Choreito on intractable hemorrhagic cystitis in children undergoing stem cell transplantation. He found that the duration from treatment to resolution of macroscopic hematuria was significantly shorter in the Choreito group.

David Cella, PhD

On the second day, Dr. David Cella, from Northwestern University's Feinberg School of Medicine, delivered a keynote on "Patient Reported Outcomes Measurement Information System (PROMIS)." Established in 2004 with funding from the NIH, this was one of the initiatives of its "Roadmap for Medical Research." PROMIS utilizes available information technology to develop, test, and implement a system that collects and quantifies numerous clinically important outcomes, including physical, mental, and social health.

With some of the known difficulties in conventional research in its application to many integrative therapies, PROMIS's set of person-centered measures can serve as invaluable research tools. The system continues to develop new questions and outcomes and has evolved to include a web-based system. The website allows patients to report online and gives researchers access to item banks and results, thus providing flexibility and efficiency. PROMIS and other validated tools are completely free. Learn more at: www.healthmeasures.net.

Following Dr. Cella's talk, the plenary, "Integrative Innovations in Digital Health Technologies with Cancer Patients and Survivors," continued along a similar theme. Dr. Jennifer Ligibel of the Dana Farber Institute presented her study, "Breast Cancer Weight Loss Trial" (BWEL), which showed that women who were obese at the time of diagnosis had a higher rate of recurrence and mortality than women who were leaner. Using health technology to implement the study, Dr. Ligibel discussed its advantages and disadvantages.

While she was able to design a cost-effective trial with a large and diverse population leading to generalizable results, challenges with implementing a lifestyle intervention via technology had to be navigated. The ongoing BWEL trial has thus far been very successful and currently includes participation from over 1000 centers.

Dr. Lynne Wagner of Wake Forest spoke on three research initiatives: implementing electronic patient reported outcomes in cancer clinical care, provider perspectives on integrating digital health technologies in clinical care delivery, and a targeted e-health intervention designed to reduce recurrence among breast cancer survivors. Takeaways included that digital health technologies can potentially integrate the assessment of cancer patients in a robust and precise manner, electronic patient reported outcomes can help streamline and make clinical encounters more efficient, and electronic health interventions can potentially provide coping strategies for fear of cancer recurrence.

Dr. Joseph Greer of the Massachusetts General Hospital Cancer Center rounded out the plenary, pointing out that there is approximately one cardiologist for every 71 persons experiencing a heart attack and one oncologist for every 141 newly diagnosed cancer patients. However, there is only one palliative medicine physician for every 1200 patients living with a serious or life-threatening illness, leaving a significant gap in palliative care.

Dr. Greer then spoke about the novel development of a cognitive-behavioral therapy (CBT) mobile app to treat anxiety in patients with incurable cancer. While further work is needed to increase engagement over time and expand population size and diversity to help confirm findings, the app can potentially provide an extra layer of support to terminally ill cancer patients to improve anxiety in a simple and feasible manner.

"I thought the conference a huge success. I was unsure as to what to expect because it was my first SIO conference. I was very intrigued with the idea of traditional allopathic medicine sponsoring an alternative point of view. The research was encouraging and gratifying but I was very excited to see the bridge between the western and eastern philosophies of medicine starting to be constructed. I believe the essence of the conference was to provide the importance of both medicines working together, like yin/yang. At least that's my dream for humanity!"

—Janis Regier, Acupuncturist, Natural Therapy, Omaha, Nebraska

"I joined SIO in 2008 at the recommendation of my mentor, Peter Johnstone, MD, who was one of the founders of SIO. In those early years, the majority of attendees were MD oncologists. Though there were very few acupuncturists, our medicine was well respected by the oncologists and I found many highly experienced researchers to network with and consult and collaborate with. Following the 2016 joint conference SIO/SAR/IFS in Boston, now about one quarter of conference attendees are practitioners of Asian medicine from countries including U.S., China, Japan, Korea and Israel, representing the profession on almost all special interest groups and committees. This infusion of Asian medicine comes from the dedicated work of both Misha Cohen, a long time SIO member who also served on the SIO board, and to Jun Mao, MD, MSCE who served as SIO president from 2015-2017."

—Jennifer A. M. Stone, LAc, Acupuncturist, Bloomington, Indiana

The second plenary provided a mixture of history, research, and trends in the use of various forms of "Art as Medicine." Drs. Sherry Goodill, Debra Burns, and Teresa Gilewski presented respectively on dance movement therapy, music therapy, and film. Dr. Goodill showed that when dance movement therapy is used in conjunction with conventional therapies it may reduce depression, reduce anxiety, and increase quality of life. However, she also clarified that more research needs to be done with cancer patients in particular before any conclusions can be drawn.

Dr. Burns spoke about the potential role of music therapy in oncology and end of life care. Using approximately 20 different music-based interventions, music therapists provide tailored therapies based on an assessment of patient needs and preferences. An interesting clinical implication of one study found that music imagery actually heightens distress in certain individuals with a high internal locus of control, suggesting that this particular music-based intervention may be better suited for those with a lower locus of control.

Dr. Gilewski closed the plenary by discussing "The Role of Film to Highlight the Human Elements of Medicine." Starting with a quote from the famous physician Dr. William Osler who stated that "The practice of medicine is an art, not a trade…," Dr. Gilewski walked us through how medical education evolved to be more scientific, analytical, and less humanistic. She suggests that films can foster humanism and concluded the presentation with excerpts from a number of touching documentaries she produced featuring the experiences of physicians, patients, and family members.

Afternoon plenary sessions included, "When Personalized Traditional Chinese Medicine Meets Integrative Oncology: A U.S.-China Conversation." It featured a panel of U.S. and China trained oncologists discussing case studies. Dr. Ting Bao presented the U.S. approach and Dr. Yun Xu of Xiyuan Hospital presented the Chinese approach to a pair of breast cancer cases. This was followed with a pair of colorectal cancer cases respectively presented by Drs. Yufei Yang and Wenli Liu of China and the U.S.

Both the U.S. and Chinese approaches to the cases featured the use of integrative therapies. Unsurprisingly, they diverge when it comes to the use of Chinese herbal medicine (CHM). While the U.S. treatments willingly incorporated a number of adjuvant interventions, such as acupuncture, yoga, and massage, the Chinese approach routinely used CHM throughout the entirety of care. Dr. Yun Xu stated that while only 5% of cancer patients use acupuncture in China, over 80% use CHM.

Naturally, the concern of herb-drug interactions arose during discussion. During open questioning, Dr. Weidong Lu pointed out the complexity of the issue, citing studies in which some herbal medicines have a negative impact on the chemotherapeutic agent 5-FU, while the herbs used in Dr. Xu's case did not. He encouraged his Chinese colleagues to work to resolve the herb-drug interaction issue as it is one of the significant barriers to its assimilation into conventional U.S. care.

On day three, a presentation, "Integrative Models: Learning from the Examples of Three Breast Cancer Centers" included physicians from three different institutions and from three different countries who briefly described their breast cancer center models. This panel included Dr. Petra Voiss of the University of Suisenberg-Essen, in Germany, Dr. Claudia Witt of the Institute for Complementary Medicine in Zurich, Switzerland, and Dr. Ting Bao from Memorial Sloan Kettering (MSK).

At the University of Suisenberg-Essen, both outpatient and inpatient integrative services are available. Their team is currently comprised of MDs, nurses, an acupuncturist, mind-body therapists, and psycho-oncologists. All inpatients are seen during rounds and informed about integrative oncology services. If interested, they may receive a consultation for a number of therapies, including acupuncture, massage, neural therapy, and mistletoe treatment. Outpatients are offered a consultation after discussions at the tumor board. Additionally, cancer patients are offered a daycare clinic that is covered by health insurance.

Dr. Bao then discussed MSK's breast treatment service. It is an extremely busy clinic, conveniently located within the hospital's Breast and Imaging Center (BAIC). They offer acupuncture, massage, exercise, and mind body therapy. Breast cancer patients see breast surgeons or medical oncologists initially, where they can receive a patient-centered consultation that factors in diet, exercise, mind-body, supplements, and sleep. Specific recommendations for individual patients are made thereafter.

These consultations are covered by insurance, since it is under the MSK cancer care umbrella. However, there are still out-of-pocket expenses for the therapies themselves. Since there are only four integrative medicine physicians for the entire hospital, wait lists are up to three months out.

The Breast Cancer Center at Lucerne (Switzerland) is comprised of a collaboration between conventional cancer clinicians, a yoga teacher, music therapist, two physiotherapists, and one TCM based nutritionist. Breast cancer surgeons are trained in multiple integrative therapies, including auricular acupuncture as well as needling of selected body points, mistletoe treatment, lifestyle advice, and relaxation techniques.

Aromatherapy and PC6 acupressure is available and provided by the nursing team for inpatients. Another nurse with a secondary qualification offers TCM nutrition consultations. An exercise program is available from the physiotherapy team, and yoga is provided via a collaboration with an external instructor. Information about integrative therapies is provided during the patient's oncological consultation and via leaflets. Exercise, yoga, and TCM nutrition services are available at any time for patients.

Physician and nursing consultations and exercise sessions are fully covered by insurance, however, yoga and nutrition counseling are not. While these three centers from three different countries differed greatly in many regards, two things were apparent to me: out of pocket expenses are still a significant barrier to integrative care access and having an oncologist serve as an advocate for these therapies is crucial to their acceptance and implementation in the conventional care setting.

The conference concluded with the "Best of SIO" in which researchers of selected abstracts presented. Three of the five abstracts related specifically to TCM. Dr. Tony Hung presented his survey, "What if Acupuncture is Covered by Insurance?" which had three interesting findings: 50% of 668 patients surveyed would be willing to try acupuncture for pain if it were covered by insurance, if you are white, more educated, and in more pain, you were more inclined to try acupuncture, and finally that patients were more willing to try acupuncture if they had higher expected benefit, lower perceived barriers and if they perceived acupuncture as socially normal. He pointed out some shortcomings of the survey, namely social desirability bias, the measure of willingness rather than actual use, and the lack of generalizability.

Yawen Geng, a PhD candidate from Fudan University in Shanghai, presented "Analysis of the Correlation between TCM Syndrome Types and the Status of the Inflammatory Response in Pancreatic Cancer." She found that systemic inflammatory response varies with different TCM patterns. The pattern of "excess Heat" showed the highest neutrophil/lymphocyte and platelet/lymphocyte ratios, while showing the lowest lymphocyte/monocyte ratio. This is, suggestive of longer overall survival, while the "Spleen *qi*" pattern with the lowest count of lymphocyte subsets may have a shorter overall survival.

Misha Cohen, OMD, Dipl Ac & CH (NCCAOM), LAc

Dr. Misha Cohen, a longtime and esteemed TCM practitioner presented the findings of her phase 2 clinical trial utilizing the topical Chinese herb Arnebia Indigo Jade Pearl (AIJP) cream in a sample population of HIV+ adults with HPV-related high grade intraepithelial lesions. The study was done in conjunction with UCSF and the American College of Traditional Chinese Medicine. It found that 54% patients in the treatment group experienced a complete or partial response vs. 31% using a placebo. Results were statistically and clinically significant, with no serious adverse events. Dr. Cohen concluded that AIJP is a safe and feasible option and shows promise as not only an anal cancer preventative, but adjuvant therapy for ablation in cases of large volume disease.

"Medical providers such as MDs and NPs were the largest represented population, but LAcs were the next most represented medical providers!"

—Eric Raymond Buckley, DOM, Board Member, American Society of Acupuncturists, Acupuncturist, Christus St. Vincent Hospital, Sante Fe, NM

Lynda Balneaves, RN, PhD

This was my third SIO conference and I continue to be impressed by the volume and level of information provided and the opportunity to develop relationships with like-minded colleagues. Among all attendees there was an atmosphere of mutual respect and appreciation, regardless of discipline. Thank you Dr. Mao for your service and help in developing such an environment, and I am certain this will continue with new SIO's new president, Lynda Balneaves, RN, PhD.

Dr. Balneaves brings a wealth of clinical and research experience to the organization and is recognized as a nursing leader within integrative health care. Her appointment to the presidency of the SIO is not only reflective of her accomplishments but also of the truly open and integrative foundation of the SIO, which has demonstrated a history of appointing leaders from a variety of professions.

The SIO's 15th Annual International Conference theme will be "From Research to Practical Applications." It will be held October 27-29, 2018, at the Scottsdale Resort at McCormick Ranch in Scottsdale, Arizona.

Photos provided by the Society for Integrative Oncology

Editor in Chief Jennifer Stone, LAc Introduces **Jun Mao, MD, MSCE**

Photo Courtesy of the Society for Integrative Oncology

Brilliant and nurturing, Dr. Jun Mao's love for his patients and all people is obvious when you see his smile and hear him speak. Whether it's on ABC News' "Good Morning America" or just after he gave you a hug, you know you are in the company of a wonderful human being.

Dr. Mao is chief of the Integrative Medicine Service at Memorial Sloan Kettering Cancer Center in New York City. In addition to overseeing patient care, he also conducts research on the benefits of acupuncture and complementary therapies for people who are coping with cancer. He recently published an extensive NCCAOM/PDA-approved webinar, "Acupuncture for the Cancer Patient." This valuable 17-hour online program, available through the Memorial Sloan Kettering Cancer Center website, prepares licensed acupuncturists to safely care for cancer patients as they experience their treatment symptoms and side effects. https://www.mskcc.org/departments/survivorship-supportive-care/integrative-medicine/programs/acupuncture

After receiving a Bachelor's Degree in Chemical Engineering at the University of Illinois at Urbana-Champaign, he received his medical training at the University of Illinois, Chicago, and his MSCE from the Perelman School of Medicine at the University of Pennsylvania's Department of Epidemiology. Dr. Mao also studied at the Beijing International Acupuncture Training Center and the China Academy of Traditional Chinese Medicine. He received his Certification for Medical Acupuncture for Physicians from the UCLA/Helms Medical Institute.

With over 116 authored publications on PubMed/MEDLINE, Jun Mao is one of the most prolific researchers in the field of traditional Chinese medicine today. Dr. Mao's work has been funded by the National Cancer Institute, the National Center for Complementary and Integrative Health, the American Cancer Society, and the Patient-Centered Outcomes Research Institute.

We're very pleased and excited to present an interview with Dr. Jun Mao in the spring issue of MJAOM. He will discuss the past, present, and future of acupuncture research in the U.S.

For additional info:

PubMed https://www.ncbi.nlm.nih.gov/pubmed/?term=Mao+JJ

Advancing the Global Impact of Integrative Oncology https://academic.oup.com/jncimono/article/2017/52/lgx001/4617816

ASCO post articles on Rhodiola and Acupuncture for Management for Hot Flashes http://www.ascopost.com/issues/september-25-2017/rhodiola/ http://www.ascopost.com/issues/march-25-2017/acupuncture-for-the-management-of-hot-flashes/

Nature reviews https://www.nature.com/articles/nrc3822-c3

The American Traditional Chinese Medicine Association: A Conference Report

By Stephanie Pina, ND, MSOM, LAc, FABORM

Stephanie Pina ND, FABORM, Dipl.OM (NCCAOM), LAc received her Doctorate in Naturopathic Medicine from Southwest College of Naturopathic Medicine and her Master's in Oriental Medicine from the Phoenix Institute of Herbal Medicine and Acupuncture. She received her ABORM Fellowship in 2013. Stephanie practices at the Roselle Center for Healing in Fairfax, Virginia. She is a current board member of the Acupuncture Society of Virginia. Email: spinanmd@yahoo.com

On September 16th and 17th, 2017, the American Traditional Chinese Medicine Association (ATCMA) and Traditional Chinese Medicine Alumni Association (TCMAAA) hosted their third ATCMA Congress in Tysons Corner, Virginia, just outside the nation's capital. The 300+ participants included multiple esteemed presenters and researchers from China and other international practitioners. Two tracks were offered in advanced acupuncture needling demonstrations and a research and educational forum discussed trending topics, including presentations on the importance of acupoint specificity and the need to preserve traditional aspects of theory and needling.

The TCMAAA was formed in 2014 by uniting twenty-five Chinese university alumni association branches in the U.S. Many of these association members are distinguished speakers and authors known worldwide. In 2016, with the support of TCMAAA, ATCMA was formed as a non-profit organization to help advance the acceptance of acupuncture and traditional Chinese medicine (TCM) in the U.S.

The two organizers were successful in uniting U.S. and Chinese practitioners both socially and academically. A number of top leaders of these groups offered their support for ATCMA/TCMAAA while building relationships to enhance the impact of acupuncture around the world. President of both the TCMAAA and the ATCMA, Haihe Tian, AP, PhD presented opening remarks that echoed the mission of the ATCMA in its strong desire to promote deeper understanding of TCM in the U.S.

The opening ceremony included Congresswoman Judy Chu, PhD who represents the 27th District of California and delegate Mark Keam who represents the 35th District of Virginia. Keam offered encouragement from the Commonwealth of Virginia, and both offered words of welcome and success to all attendees. Time was taken to recognize Arthur Fan, CMD, PhD, LAc and Hui Wei, AP, CEO of ATCMA, for their service and dedication towards the goals and mission of the ATCMA and TCMAAA.

Keynotes speakers Dr. Baoyan Lui, president of the World Federation of Acupuncture-Moxibustion Societies (WFAS), and Binsheng Sang, secretary-general of World Federation

"Keynotes speakers Dr. Baoyan Lui, president of the World Federation of Acupuncture-Moxibustion Societies (WFAS), and Binsheng Sang, secretary-general of World Federation of Chinese Medicine Societies (WFCHA), both from Beijing, highlighted the growth of not only acupuncture but complementary and alternative medicine (CAM) in the U.S. and gave thanks of appreciation to a number of its pioneers that were present in the room."

of Chinese Medicine Societies (WFCHA), both from Beijing, highlighted the growth of not only acupuncture but complementary and alternative medicine (CAM) in the U.S. and gave thanks of appreciation to a number of its pioneers that were present in the room. They encouraged attendees to becoming involved in the advancement of their profession through continued research devolvement in the fields of acupuncture and TCM.

Advanced Needling Techniques and Demonstrations

The importance of acupoint specificity was an interesting link between many of the presentations. Proper identification, needle location, and indication were emphasized to improve treatment effectivity and outcome. Some of the demonstrations included advanced scalp acupuncture techniques by Dr. Jason Jishen Hao and local needling for osteoarthritis of the knee with application of moxibustion, with emphasis on preventive care and rehabilitation by Dr. Wei Tang. Treatment of scarred tissue, the application of what is called "motion acupuncture," and focus on connective tissue needling for complex, chronic issues were presented by distinguished leaders in their respective fields.

Discussion and demonstration of other acupuncture techniques, such as the importance of moxibustion, electro-stimulation and discussion of graphene far infrared therapy, were also included. These demonstrations offered invaluable perspectives from clinical observations and clinical research. The growing understanding of herbal medicine as used in the U.S. was discussed by its major sponsors, TCMzone, LLC and Beijing Tong Ren Tang.

The Acupuncture Research Forum

The Congress included a research and education forum offering more information examining acupuncture techniques and relevant studies. This forum included twelve presentations that identified some of the issues unique to the practice of acupuncture in the U.S. that differ from those in China. Professor Fanrong Liang, MD, president of the Chendu University of Chinese Medicine, discussed treatment perceptive in his presentation, "Central Network Mechanism of Acupuncture on Migraine with Meridian Points." Professor Yueling Li, MD, president of Dongzhimen Hospital, Beijing University of Chinese Medicine, spoke to a full audience on "Consensus of Male Weak Sperm Infertility Based on the Pattern of Spleen Kidney Deficiency and Blood Stasis." Weidong Wang, MD, vice president of Dongzhimen

2017 ATCMA Organizers and Board Members

Hospital, discussed the need for more TCM mind-body research in his presentation, "How to build Mind-Body Medicine Model Based on Chinese Medicine Patterns."

Several of the topics presented on the public's growing interest about the utilization of acupuncture as well as the strengths and weaknesses of current education training and research models for acupuncturists here in the United States. Changzhen Gong, PhD, president of the American Academy of Acupuncture, discussed "How Modern Acupuncture Subverts Conventional Principles." He identified the differences seen in techniques, such as needling style and treatment frequency between Chinese and American practitioners.

New York College of Traditional Chinese Medicine faculty member Yemeng Chen, MD, PhD also presented on "The Trends of Acupuncture Education in the U.S.," mentioning the growth of doctoral programs and the specializations in post-graduate TCM schools. Inclusion of classes such as acu-anatomy, acu-physiology, acu-histology and specialty techniques were among the suggestions from attendees during the forum's question and answer session.

Researcher Arthur Yin Fan MD, PhD, LAc discussed a common topic seen in acupuncture research in a talk entitled, "How is Sham a Sham?" He said there is a great need for studies that compare acupuncture treatment to standard of care instead of comparing it with sham acupuncture treatments.

Ashley Xia, MD, PhD, LAc from the National Institutes of Health discussed trends towards using "big data" to enhance the growth of scientific research in acupuncture. As this modern technology becomes more available, research results, analysis, and communication on this back to the clinical field will be enhanced.

Ever since the recognition of CAM research by U.S. government agencies, the practice of acupuncture has grown through the development of accredited educational training programs and standards into a still underutilized but accepted and important treatment option in the U.S. A National Certification Commission of Acupuncture and Oriental Medicine (NCCAOM) panel of speakers addressed this growth of acupuncture in the U.S. and stressed the importance of diplomate certification. They indicated that the formation of the NCCAOM's Academy of Diplomates will play an important part promoting positive changes and development in the profession.

Bill Reddy, LAc, director of the Integrative Health Policy Consortium, presented on the opioid epidemic and the role of acupuncture: "U.S. Pain Policy and its Influence on AOM and Integrative Healthcare." Finally, Holly Bayne, an attorney whose practice focuses on dietary herbs and supplements, spoke on the important topic, "Navigating FDA and FTC Regulatory Risks: What Every TCM Practitioner Should Know."

Lecture Photo ATCMA

"Ever since the recognition of CAM research by U.S. government agencies, the practice of acupuncture has grown through the development of accredited educational training programs and standards into a still underutilized but accepted and important treatment option in the U.S."

Other research forum presenters included Jianfeng Liu, MD, PHD, director of the Traditional Medicine Office, China Academy of Chinese Medicinal Science; Professor of Medicine Bao Yuancheng, First Affiliate Hospital of Anhui University of Traditional Chinese Medicine; and Xinsheng Jiang, OMD, LAc, president of the Natural Health Center in St. Louis, Missouri. There was also a short communication session about acupuncture in the 21st century led by Robert Hoffman, LAc and Donald Lefeber, LAc.

Special thanks go to the team of translators who worked throughout the weekend and allowed for a heightened education experience for all. Their simultaneous translations of all Chinese presentations made it easier for English-speaking attendees to follow. Printed presentation materials were offered in both English and Chinese, with live screening of acupuncture demonstrations presenting optimal viewing. From morning sessions of *tai chi/qi gong* to the broad array of academic presentations, this conference met the expectations of all who attended.

Please note that the ATCMA is open to all TCM practitioners, including students. More information can be found at www.actma-us.org. Plans are now being made for ATCMA's fourth conference, which will be held in Seattle, Washington, August 4-5, 2018.

U.S. Attorneys General Promote Acupuncture Coverage

By Bill Reddy, Dipl Ac (NCCAOM), LAc

Bill Reddy, Dipl Ac (NCCAOM), LAc promotes acupuncture and Oriental medicine in an integrative setting by serving as the co-chair of the Federal Policy Committee of the Integrative Health Policy Consortium. Bill is an avid practitioner of various martial arts, a lecturer, and an author of over 90 publications. He practices in Annandale, Virginia. Email Bill Reddy at: acu_health@yahoo.com

In an unprecedented display of solidarity concerning the national opioid crisis, the National Association of Attorneys General (NAAG) wrote a letter dated September 18th, 2017, to America's Health Insurance Plans (AHIP) urging them to review their payment and coverage policies to prioritize non-opioid approaches to pain management. AHIP is a national political advocacy and trade association, with approximately 1,300 member companies that sell health insurance coverage to more than 200 million Americans.

This letter, signed by Attorneys General from 37 states, says, *"As the chief legal officers of our States, we are committed to using all tools at our disposal to combat this epidemic and to protect patients suffering from chronic pain or addiction, who are among the most vulnerable consumers in our society."* The implications of this letter are far-reaching for our profession.

The 2016 CDC Opioid Prescription Guidelines recommended non-pharmacologic approaches as first-line management of acute and chronic pain but didn't specifically call out acupuncture as one of those approaches. Without specific guidance, physicians may turn to surgery, physical and occupational therapy, and cognitive behavioral therapy as first line management options. The draft FDA Pain Management Blueprint, released in the spring of 2017, did refer specifically to acupuncture as an appropriate non-pharmacologic approach.[1]

With this letter, the NAAG took this one step further by pointing out that,

"The unnecessary over-prescription of opioid painkillers is a significant factor contributing to the problem" and that "the American Academy of Neurology has explained that while the use of opioid painkillers can provide 'significant short-term pain relief,' there is 'no substantial evidence for maintenance of pain relief or improved function over long periods of time.'"[2] A major step forward in avoiding over-prescription of opioids would be to promote adequate insurance coverage and incentives for alternative treatments.

NAAG makes the point that previous government efforts (without specifically referring the CDC guidelines, National Pain Strategy, etc.) have had marginal effects on providers' prescriptive habits identifying that,

"Insurance companies can play an important role in reducing opioid prescriptions and making it easier for patients to access other forms of pain management treatment. Indeed, simply asking providers to consider providing alternative treatments is impractical in the absence of a supporting incentive structure. All else being equal, providers will often favor those treatment options that are most likely to be compensated, either by the government, an insurance provider, or a patient paying out-of-pocket. Insurance companies thus are in a position to make a very positive impact in the way that providers treat patients with chronic pain…. incentivizing opioid alternatives promotes evidence-based techniques that are more effective at mitigating this type of pain, and, over the long-run, more cost-efficient."[3]

I have been working with Attorney General of West Virginia Patrick Morrisey through the Integrative Health Policy Consortium (IHPC) Federal Policy Committee. We have been discussing strategies to mitigate the opioid crisis in their state and help to develop a "best practices" document.

Morrisey led the effort with 36 other states to write the letter to AHIP. He asserted, "Defeating our state's opioid epidemic requires a holistic approach, one that attacks the problem from a supply, demand and educational perspective. Doctors, pharmacists and every stakeholder in the supply chain must look beyond opioids as a first-line treatment option. My administration created a substance abuse fighting task force and eradicating this scourge remains one of our top priorities."

In a recent press release, IHPC Chairman Len Wisneski, MD, FACP applauded the letter: "This is a big step forward with the potential to save millions of lives and billions of dollars. Those in pain should not be denied proven and effective non-opioid options because of lack of coverage by insurers. Opioid addiction must be prevented. Research shows that nonpharmacological interventions, such as chiropractic, acupuncture and massage therapy, can be just as, if not more effective for the treatment of certain pain. These options need to be prioritized for providers and patients."

Similarly, the NAAG promoted acupuncture and integrative health by stating, "When patients seek treatment for any of the myriad conditions that cause chronic pain, doctors should be encouraged to explore and prescribe effective non-opioid alternatives, ranging from non-opioid medications (such as NSAIDs) to physical therapy, acupuncture, massage, and chiropractic care."

Executive Director of the Academy of Integrative Pain Management (AIPM) Bob Twillman, PhD, FAPM said, "Those of us who specialize in treating chronic pain recognize that we can kill two birds with one stone by maximizing the use of non-opioid treatments for chronic pain; doing so helps address both chronic pain and risk of addiction. Acupuncture is chief among those non-opioid treatments, and we need to find a way to increase patient access by ensuring adequate insurance reimbursement."

"This report, in addition to the NAAG letter, is evidence that the U.S. government is slowly working to include acupuncture into mainstream medicine."

In late October 2017, AIPM held an Inaugural Integrative Pain Care Policy Congress in conjunction with IHPC and the State Pain Policy Advocacy Network to further strengthen the argument for greater insurance coverage of alternative pain care. The invitation-only meeting included 75 frontline pain care providers and policy experts representing more than 50 organizations, including state pain societies, health provider associations, integrative pain care-focused groups, insurers, regulators, and palliative care organizations. Their aim was to identify and build deeper collaborative efforts around advancing integrative pain care.

The NCCAOM sent a representative to participate in this inaugural event. (Please watch for forthcoming communications from NCCAOM about the outcomes of the meeting.)

The President's Commission on Combating Drug Addiction and the Opioid Epidemic released their 138 page report on November 1st, 2017, recommending the Centers for Medicare and Medicaid Services:

"Review and modify rate-setting policies that discourage the use of non-opioid treatments for pain, such as certain bundled payments that make alternative treatment options cost prohibitive for hospitals and doctors, particularly those options for treating immediate post-surgical pain."

In addition to the NAAG letter, this report is evidence that the U.S. government is slowly working to include acupuncture into mainstream medicine. These examples indicate acupuncture not only as a viable non-invasive approach to reducing opioid prescription use but also as a management tool to address opioid dependence and addiction.

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Pc-9 中衝 *Zhong Chong,* Central Surge

By Maimon Yair, DOM, PhD, Ac and Chmielnicki Bartosz, MD

Please see bios at end of the article.

Explanation of the picture:

Pc-9, ZhongChong, is a Wood point and a *Jing-Well* on Pericardium channel. Both functions are shown on the picture. The tree (wood) is in central point (*zhong:* center) where all roads meet, acting as a central hub (*chong*: movement).

This point influences the connection between the Heart inner world and the Pericard outer world; therefore, there are some monks or messengers running to and from the center.

Characters of the Name:

中 – ***Zhong*** There are many explanations of the etymology of this character. The simplest one describes the character as the pictogram of an arrow flying straight into the center of the target. The character means the center, middle, or between.

衝 – **Chong** The character is composed of two parts: character *Chong* 重 (repeat or weight) put between two parts of character 行 *Xing* (walk). Together they mean repeated action taken with great effort to rush forward, highway, central place (where all the highways meet or begin). It brings a meaning of power—of moving with great power.

*The pictures are part of a project called the "Gates of life" portraying the nature, action and *qi* transformation of acupuncture channels and points made by the CAM team © (Ayal, Chmielnick, Maimon). Illustration by the painter Mrs. Martyna "Matti" Janik.

Meaning of the Name:

Central Surge

This translation refers to the Wood quality of Pc-9 promoting the free flow of *qi* and Blood in the deep, central division of the *JueYin*.

Pc-9 provides this dynamic also for the central channels of *BaoMai,* and *BaoLuo*, which are connected with the uterus.

Other names:

地衝 – *iChong* – Earth Highway

Ki-1 is a point of connection between *chongmai* and the Earth – the internal branch of *chongmai* runs from Ki-11 to Ki-1.

陰谷 – *YinGu* – *Yin* Valley

Ki-1 is placed in a depression (valley) on the sole of the foot—the most *yin* part of the body, thus this name shows the location of the point.

Location of the Point:

There are different locations of this point described in different sources. Some sources locate this Pc-9 on the middle finger at the lateral corner of the nail. Some practitioners and authors uses also the tip of the middle finger as the location of this point.

Main Actions and Indications:

1. Pc-9 is a *Jing-well* point and the last point of the channel

1.1 The last point of the channel

Pc-9 is the last point on the Pericardium channel releasing heat form this channel with the classic indications: delirium, high fever, heat in the palms, and stiffness of the tongue.

1.2 *Jing-well* point

Due to their dynamic nature, many *Jing-well* points are effective in reviving the consciousness. Pc-9 is one of the strongest points performing this action.

The *Jing-well* points are indicated for treating the fullness below the Heart. As described above, Pc-9 is an important point for releasing Heat and Phlegm stagnation in the Heart; therefore, this is an effective point in moving the stagnations in the chest and the treatment of Heart pains.

1.3 Tendomuscular meridian:

The channel originates at PC-9. It binds at the wrist at Pc-7 and runs through the forearm between the channels of the *Heart* and the *Lungs* towards the elbow to then bind at Pc-3. Then it ascends towards the axilla and binds at the area of Ht-1/GB-22. Here it spreads reaching the ribs, the chest and the diaphragm.

Its main functions are to help in raising the ribs as well as enabling the pushing with flexed arms; therefore, the symptoms of blockage in this channel include chest pains with oppression or pains, spasms, stiffness alongside the trajectory of the channel.

"The dynamics of Wood and Spring energy enables Pc-9 also to be one of the strongest points for reviving consciousness."

2. Pc-9 is a Wood point

Movement is the nature of the Wood Phase. Pc-9, as the Wood point on the Pericardium channel promotes the free flow of *qi* and Blood releasing Heat resulting from stagnations in all three *Jiaos*:

- In the *Upper Jiao* it is mostly relates to the Heat in the Heart and the chest resulting in symptoms such as convulsions, loss of consciousness, acute heart pains, fever and pain in the chest without sweating.
- In the *Middle Jiao* it is mostly the Heat in the Stomach and digestive tract creating symptoms such as vomiting, epigastric pain, or diarrhea with fever.
- In the *Lower Jiao* it is mostly the Heat and stagnation in the uterus causing excessive uterine bleeding, irregular menstruation with pain, and clots in the menstrual blood. Influencing influences the *BaoMai* and *BaoLuo* channels.

According to the Five Phases *Sheng* cycle, the Wood feeds the Fire. Pc-9, the Wood point on the Fire, Pericardium channel tonification point effects deficiency in the pericardium resulting in palpitation or uneasiness in the chest.

The dynamics of Wood and Spring energy enables Pc-9 also to be one of the strongest points for reviving consciousness.

3. *Shen* transformation

Pc-9 is a Wood point and a tonification point on the Fire channel of Pericardium; therefore, it helps in moving stagnations in the Liver, which prevent proper feeding of the Pericardium. This situation is reflected on the pulse, when Liver position is excessive, while Pericardium position is deficient. Such people have a tendency to mixing love and anger. They are often over-judging, over-controlling, jealous and frustrated. They can be hurt from not receiving love from close relationships. Usually these people want and need more love, but they don't allow it. Releasing the Liver and feeding the energy of Fire enables them changing the perception and seeing new possibilities.

Yair Maimon, DOM, PhD, Ac
Dr. Maimon heads the Tal Center at the Integrative Cancer Research Center, Institute Of Oncology-Sheba Academic Hospital, Tel Hashomer, Israel. He has served as chairman of the International Congress of Chinese Medicine in Israel (ICCM) and the head of the Refuot Integrative Medical Center. With over 30 years of clinical, academic, and research experience in the field of integrative and Chinese medicine, Dr. Yair combines scientific research with inspiration from a deep understanding of Chinese medicine. He has been a keynote speaker for numerous congresses and TCM postgraduate courses.
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Bartosz Chmielnicki, MD
Bartosz Chmielnicki is a medical doctor, practicing and teaching acupuncture since 2004. In 2008 he established the Compleo–TCM clinic in Katowice, Poland, and soon after he opened an Academy of Acupuncture there. Dr. Chmielnicki teaches at many international conferences as well as in schools in Poland, Germany, the Czech Republic, and Israel. For the past five years, he has been working on a project with artist Rani Ayal and Yair Maimon, PhD to visually present acupuncture point names and physiology together.

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Discussion

This particular patient had an unhealthy diet consisting of almost no intake of fruits or vegetables. As was found by doing the elimination diet, carbohydrates, sugars, and dairy played a role in the inflammation. To maintain progress by supplementing the AOM treatments and reduce inflammation, she was encouraged to eliminate these foods and only consume unadulterated whole foods on a daily basis.

She was told which foods to avoid, what to look for in the foods she prepared, and what could be eaten more often. As she kept to this diet, it was observed that this helped reduce or eliminate the patient's symptoms of leucorrhoea, eczema, and swelling of hands; they worsened or reoccurred when she ate sugar and/or dairy.

A systemic review evaluating effectiveness of moxibustion for rheumatic conditions finds that three out of four studies show a better total response rate in the moxibustion groups than in the control groups, and that, therefore, moxibustion may have an effect on inflammatory reactions in RA patients.[2,6,23] If a clinical setting allows for more moxibustion use instead of electro-acupuncture, moxibustion on the hand and foot points could be of interest, as it increases circulation to these areas where, such as in this case, chronic suffering has led to a form of yang insufficiency.

The AOM etiology indicates the underlying weakness that enables the external pathogens to invade one's system. Once the patient's pain was brought to a manageable level, the focus of the root problem, etiology, and individual constitution was addressed, which may have led to a significant reduction of symptoms. Even though significant results were seen, her condition may require lifetime treatment. It is hoped that symptoms can now be managed, with longer periods between the treatments.

Limitations

There were several limitations in the reporting of this case. Treatment was provided by multiple practitioners in an academic clinic setting; each practitioner used different modalities. Pain scale was not recorded for each visit to the clinic, and no objective outcome measure was used. Due to the heterogeneous nature of the treatment regimen, it is unclear what modality or combination of modalities contributed to the changes in symptoms.

Conclusion

The treatment cycle for this patient's case of rheumatoid arthritis indicates that the combination of acupuncture, electro-acupuncture, herbs and dietary changes provided a level of effective pain relief. This suggests that when this integrated treatment is given, the dosage of prescription drugs may be able to be reduced in coordination with the assessment of the patient's physician.

Acupuncture and Oriental medicine may be a useful adjunctive therapy to anti-inflammatory drugs. Acupuncture has shown that, when combined with herbs (externally and/or internally) along with diet modifications, improvement in RA symptoms can occur.[7] Randomized controlled trials are needed to further investigate the efficacy of acupuncture in treating rheumatoid arthritis.

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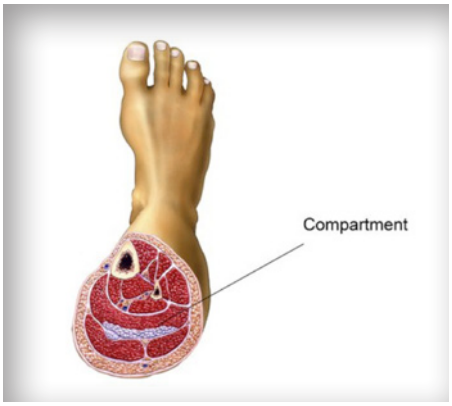
CLINICAL PEARLS



"The chronic form of this condition is most often approached with physical therapy, orthotics, and anti-inflammatory medicines, but these have produced questionable results regarding symptomatic relief."

The topic discussed in this issue is:

How Do You Treat Compartment Pain Syndrome or CPS in Your Clinic?

Both of these conditions can potentially result from an injury, and traditional eastern medicine is not often thought of as an option. However, as we will see in these clinical pearls, depending on the severity of the condition, many modalities may be useful.

Compartment syndrome is a painful condition that occurs when pressure within the muscles builds to dangerous levels. This pressure can decrease blood flow, thus preventing nourishment and oxygen from reaching nerve and muscle cells. Complex regional pain syndrome (CRPS) is a relatively poorly understood condition in which a person experiences persistent severe and debilitating pain that's often confined to one limb, but it can spread to other parts of the body.

Compartment syndrome can be either acute or chronic. Acute compartment syndrome (ACS) is regarded as a medical emergency usually caused by a more severe injury. Without treatment, it can lead to permanent muscle damage. Chronic compartment syndrome (CCS), also known as exertional compartment syndrome, is usually not a medical emergency. It is most often caused by athletic exertion.

Acute compartment syndrome most often requires an incision that cuts open the skin and fascia covering the affected compartment in a procedure called a fasciotomy. According to western medical approaches, one commonly finds that there is no effective nonsurgical treatment, and liability can accordingly be at a high level. Due to potentially severe consequences of this condition if not treated surgically, it is often not seen in East Asian medical clinics in the United States. It would be worthwhile to do a research study regarding acupuncture treatment for acute compartment syndrome in emergency medical environments to determine if it could further reduce surgical options.

The chronic form of this condition is most often approached with physical therapy, orthotics, and anti-inflammatory medicines, but these have produced questionable results regarding symptomatic relief. Totally avoiding the activity that caused the condition may be a simple option. If typical conservative measures fail, surgery may be utilized. In light of this being a less drastic condition than ACS, additional modalities such as acupuncture, moxibustion, and Chinese herbs can be more readily considered.

CRPS is most often triggered by an injury as well; however, the resulting pain is much more severe and long-lasting than normal. The skin of the affected body part can become so sensitive that just a slight touch or change in temperature can create intense pain. Affected areas can also become swollen, stiff or undergo fluctuating changes in color or temperature. Many cases of CRPS gradually improve to some degree over time or get completely resolved, however there are cases that can last several years and can benefit from treatment by an East Asian medicine practitioner.

Our clinical pearls in this issue explore how to utilize *zang fu* and scalp acupuncture, moxibustion, Japanese press-tacs, and classical Chinese herbal medicine to help gain potential relief from CCS and CRPS. Using of one or more of these approaches may help to reduce or eliminate the symptoms of these conditions over time.

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How Do You Treat Compartment Syndrome or CRPS in Your Clinic?

By Stephen Bonzak, DCCM, FICEAM, LAc

Stephen Bonzak, DCCM, FICEAM, LAc received his master's degree at the Pacific College of Oriental Medicine, Chicago. He is the founder and director of Health Traditions Acupuncture and Herbal Medicine Clinic in Chicago. In addition to his practice, Stephen teaches classes in herbal medicine and medical theory, supervises interns in the student clinic, and chairs the Oriental medicine department at PCOM. He is also the director of the Chicago Institute of Classics of East Asian Medicine, teaching alongside Arnaud Versluys, PhD, LAc.

We should distinguish acute vs. chronic compartment syndrome. It seems much more likely that East Asian medicine practitioners will see chronic exertional compartment syndrome as acute compartment syndrome in more of an emergency condition resulting from trauma to the affected limb such as fracture.

"Chronic exertional compartment syndrome (CECS) is a condition in athletes that can occur from repetitive loading or exertional activities. CECS is usually observed in competitive or collegiate athletes: long-distance runners, basketball players, skiers, and soccer players. Although it is most common in the lower legs, CECS can occur in any compartment of the extremities; for example, it has been described in the forearms of motocross racers and other athletes." [1]

CECS is characterized by exercise-induced pain that is relieved by rest. In some cases, weakness and paresthesia may accompany the pain. Onset of symptoms typically occurs at a specific exercise distance or time interval or intensity level (e.g., within 15 minutes of initiating a run). Symptoms tend to subside with rest and are minimal during normal daily activities but return when activity is resumed. The main symptoms are compartmental swelling, loss of function, and pain due to fluid pressure in the compartment that obstruct the flow of blood causing ischemia.

A sense of fullness in the compartment typically has a gradual onset, which usually worsens as activity progresses. Pain may be increased with active contraction and passive stretching during symptomatic episodes. Commonly, the patient notes the sensation of weakness, which is usually described as a loss of control of the affected extremity. For example, a runner may develop foot slap on heel-strike due to weakness of the tibialis anterior muscle. Paresthesia or dysesthesia may develop in the distribution of the affected nerve.

Since the main pathodynamics consist of increased fluid accumulation in a region with inhibition of blood flow to the affected area, there are a few formulas that come to mind: Yuebi jia zhu tang, Fangji fuling tang, Guizhi jia huangqi tang, Zhenwu tang, Ling Gui zhu gan tang, Shenqi wan, and Huangqi guizhi wu wu tang. All of these formulas have fluid-moving properties to them. By unburdening a region of fluids, the blood will flow better. Zhang Zhong-jing talks a lot about the relationship of the fluid layer to the blood layer in his writings, especially in chapter 14 of the *Jingui Yaolue*:

"When the *shaoyang* pulse is inferior, and the *shaoyin* pulse thin, then men have inhibited urination, and women have obstructed Menstrual Water, because menses are blood, and when blood is inhibited there will be water, for this is called the Blood Aspect." [2 p277]

"Question: 'There are diseases of the Blood Aspect and the Water Aspect. Why is this?" The master said: "When menstruation stops first, and then one suffers from water disease, this is called the Blood Aspect. This condition is difficult to treat. When suffering from water disease first, and then menstruation stops, this is called the Water Aspect. This condition is easy to treat. Why is that so? Eliminate the water, and the menses will discharge spontaneously.'" [2 p378]

When blood is inhibited, there will be obstruction. When the water is eliminated, then the blood will flow appropriately. This principle can be applied to pain syndromes as well as menstrual conditions.

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How Do You Treat Compartment Syndrome or CRPS in Your Clinic?

By Mitchell Harris, Dipl OM (NCCAOM), LAc

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CPRS is mostly treated with eastern medical care after a patient has tried many other conservative western approaches, thus they will often be considered "chronic pain" patients. Because of this, one must immediately manage patient expectations and recommend a treatment course of a minimum of 3 months of acupuncture at least twice weekly to aim for a more full recovery (at least this amount of time if no herbal medicine is being given).

Along the way, they should also be encouraged by short term goals of specific improvements. One may be able to get an immediate change on the table or after, but for longer term and clinically relevant changes that have duration, a treatment course should initially be in the 3-6 months range.

These patients are often also chronically immobile with a potential for worsening of symptoms related to suppression of endogenous endorphins via immobilization and/or chronic use of opiates. This combination can accelerate dysfunctional neuro-modulation and vascular changes, which are theorized to cause muscle spasm and atrophy.

Since these conditions often are started by a trauma, Chinese medicine would say more simply that an initial stagnation in the channels becomes unresolved (with a patient's underlying constitution feeding into the etiology), causing lingering obstruction and setting the potential for more pathological mechanisms. Once there is obstruction and the vacuity that accompanies it, more pathogenic factors may invade. This will complicate and worsen the condition while the patient's ability to move out the stagnation is possibly suppressed via pain medication. Based on symptomology and patient constitution, a practitioner should construct a clear and specific plan.

"CRPS often occurs in the limbs and includes the symptoms of pain, numbness and tingling, and insensitivity."

CRPS often occurs in the limbs and includes the symptoms of pain, numbness and tingling, and insensitivity. Pain may be the result of any combination of *qi* and *xue* stagnation, Dampness, Cold, and Heat. Numbness may result from a combination of Wind, Dampness, and Cold with underlying deficiency of *qi, xue, yin* or *yang*. Tingling often results from Wind and Dampness with underlying *qi* and *xue* deficiency. The common pathogenic factors will affect each patient differently according to their individual constitution.

Acupoints for pain are to be selected based upon the pain distribution the patient exhibits. For example, pain in the inner medial thigh can be addressed via one of the *yin* channels (foot *tai yin, jue yin* or *shao yin*) which should align with the area(s) of pain. Those channels can also be mapped to connect them to other channels in other "healthy" areas of the patient on opposing or same-sided limbs (via Balance Method strategies for example utilizing the Chinese body clock, 6 levels or *yin* and *yang* relationships).

Accompanying points to help manage commonly associated psychological distress can be added utilizing concepts of "spirit" points or Heart or Pericardium channels or other *zang fu*

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How Do You Treat Compartment Syndrome or CRPS in Your Clinic?

By Thomas Hodge, DOM, Dipl OM (NCCAOM)

Thomas Hodge, DOM, Dipl OM (NCCAOM) is an associate clinician working alongside his mentor Jason Hao, MBA, DOM in their Santa Fe, New Mexico, clinic. They specialize in treating neuroinflammatory and neurodegenerative diseases. In addition to this work, Dr. Hodge's clinical experience includes Christus St. Vincent's Cancer Center, Rehabilitation Center and Santa Fe Indian Hospital's pain clinic. He is a clinical supervisor for the Neuro-Acupuncture Institute and a member of the World Federation of Chinese Medicine Societies' subcommittee for brain research. He may be reached at drhodge@neuroacupunctureinstitute.org

Chronic regional pain syndrome (CRPS) develops disproportionately after a noxious event like a sprain, a fracture, a contusion or surgery. It is a neurological disorder that involves a neurogenic inflammatory process affecting both the peripheral and central nervous systems. The motor output and sensory input is now mismatched fostering such a constant state of hyper-reactivity that what was once negligible touch or activity, even after the injury has healed, will provoke the sensation of insufferable pain.

We are interested in these cortical changes corresponding to CRPS. fMRI and mangeto-encohalography (MEG) studies clearly show changes in the size and organization of the somatosensory map and changes in motor cortex representation in those suffering with CRPS. This cortical reorganization is common with chronic pain syndromes.

Chinese scalp acupuncture (CSA) enables us to directly influence cortical excitability and restore the integrity of the neural processing in the brain. CSA has a demonstrated transcranial effect that helps to regulate the autonomic, motor and somatosensory abnormalities indicated in CRPS.

An example is the case of S.R. In 2012 S.R. was working as a hospice nurse in Santa Fe when she tore her left medial meniscus while intervening with a combative dementia patient. Early in the following year, she had arthroscopic tricompartmental chondroplasty to fix the tear. The surgery was aimed to get her back to work and out of pain in just a few days. When she woke from the anesthesia, she immediately felt a stabbing pain in her left knee. Although this severe pain persisted, she was sent home with a prescription for a mild narcotic to last through the next year.

In 2014, the pain was still incessant and unresponsive to the medication. Her surgeon could see no other alternative to a total knee replacement. The condition of her knee had not been diagnosed. The consequences of such a surgery for someone with CRPS would only worsen the condition. She agreed to the surgery and awoke to greatly increased pain and a prescription for a yet stronger narcotic. Later that summer she was diagnosed with CRPS.

> "Chinese scalp acupuncture (CSA) enables us to directly influence cortical excitability and restore the integrity of the neural processing in the brain."

S.R. arrived at our clinic March 15, 2015. She was in a wheelchair and symptomatic of the side-effects of her medications. The pain in her left knee was severe, hot, and damp, extending through the anterolateral lower leg. Broken capillaries were scattered throughout both lower legs and tender. Her pulse was wiry and thready with deficiency at both *chi* positions. Her tongue was slightly purple with a thick white coat.

We addressed the following areas: upper ⅕ motor area, upper ⅕ sensory area and foot motor sensory area. We retained the needles for 30 minutes, stimulating the needles every ten minutes. That same day she noted the pain was already more manageable.

At the next visit she arrived without her wheelchair, aided only with crutches. Over the course of that year, with consistent weekly then biweekly treatments and supplemental local points, she was finally pain free and off all of her medications. She is hiking again, driving again, and enjoying trips to visit her sons. Even the painful varicosities had vanished.

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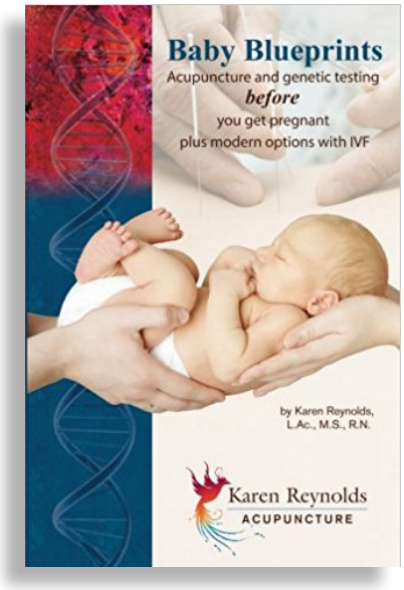
BOOK REVIEW



Baby Blueprints: Acupuncture and Genetic Testing Before You Get Pregnant Plus Modern Options with IVF

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Baby Blueprints: Acupuncture and Genetic Testing Before You Get Pregnant Plus Modern Options with IVF by Karen Reynold, RN, LAc

Reviewed by Celeste Homan, MS, DAc, LAc

Medical genetics is a branch of medicine that seeks to further the understanding of human heredity and to use that knowledge to treat and prevent disease. A recent book by Karen Reynold, RN, LAC titled book *Baby Blueprints* provides an exploration of this relatively new branch of medicine within the context of fertility care. Her strong background of 29 years as a critical care nurse and her 15 years as an acupuncture and Oriental medicine (AOM) fertility specialist qualify her to present this information in a meaningful way to the AOM community.

The author provides good evidence for encouraging patients to pursue genetic testing prior to becoming pregnant. She builds her case by introducing the reader to the opinions and recommendations of various professionals and well-respected organizations. Given that genetics only shift the probability of an outcome, the author argues that genetic testing can be used to shift that probability in a favorable way.

Reynolds' target audience is prospective patients who may benefit from AOM support for fertility care, but the book would be useful for anyone interested in the topic of medical genetics. An easy read, the book includes highlighted summaries of technical terms and tables of statistical data for reference. Her narrative describes the clinical presentation of genetic abnormalities in a straightforward yet compassionate way. She also provides information about hereditary diseases such as cystic fibrosis, Tay-Sachs disease, thalassemia, sickle-cell anemia, spinal muscular atrophy and fragile X syndrome.

Throughout the text, the author addresses the ethical issues inherent in this topic. For patients who are already pregnant and would never terminate a pregnancy under any condition, she describes the benefits of preparing both emotionally and pragmatically for the arrival of a special needs child. Her anecdotal stories leave the reader with a sense of her humanity in supporting patients who are coping with these difficulties. Her clear objective is to provide an easier transition for families who may be facing enormous challenges immediately after a child's birth.

The book discusses topics in the field of genetic testing, including cost/benefit analysis, carrier testing, and privacy issues. Reynolds provides a thoughtful discussion of direct-to-consumer testing, which patients pursue for information about their health risks, inherited diseases, drug responses and inherited traits. She also addresses the hazards of bypassing medical supervision when receiving test results in this way. Her arguments support the need for expert neutral counseling, suggesting a potential role for qualified AOM practitioners. Descriptions of several useful links for more detailed information are also provided.

"Reynolds provides a thoughtful discussion of direct-to-consumer testing, which patients pursue for information about their health risks, inherited diseases, drug responses and inherited traits."

The author's discussion of classical Chinese constitution medicine is appropriate for her audience; she provides enough information for prospective patients who may be interested in learning more. She takes an interesting approach in making the connection between constitutional type and medical genetics but does not provide details about how a constitutional assessment influences her clinical decisions. The connection between fertility treatment and constitutional type is not provided.

Reynolds closes her book with two informative interviews that revisit her main topics. The first is with a board certified and licensed genetic counselor, who describes the services offered by her profession. The second interview is with a reproductive endocrinologist who has specialized in IVF services since 1984. The medical advances he describes have resulted in greatly improved and impressive fertility outcomes for patients.

Baby Blueprints is not a technical manual about the field of integrative fertility care and genetic testing, thus a critical reader may be interested in more thorough references and clinical details. This book is a well-written "'how to begin" manual for AOM practitioners and patients who find themselves at the leading edge of this integrative specialty. *Baby Blueprints* provides clear direction for anyone interested in learning more about medical genetics as they become ready to welcome the future.

Celeste Homan, MS, DAc, LAc is an associate professor at the Maryland University of Integrated Health where she also received her DAc. She has published several articles based on the clinical application of her post-graduate studies with Jeffrey Yuen. Celeste also holds a Master of Science in Engineering from the Johns Hopkins University.

CLINICAL PEARLS - HARRIS CONTINUED FROM PAGE 48

organs matching the emotion to the organ/channel connection. Of course, constitutional points for underlying root causes are to be addressed as well.

Due to the deficient nature of most chronic pain patients, I feel direct moxibustion (*tou netsu kyuu*) and needle head moxibustion (*kyuu tou shin*) from the Japanese traditions to be highly valuable in addressing underlying deficiencies or local stagnations. The tonification and warming impulse of these techniques often feels very good—which keeps the patient happy to receive treatment—and will support the local symptoms of pain and potential deficient mood. Often patients in this condition have skin sensitivities. They can feel sweaty and cold suddenly, demonstrating how obstruction is causing qi and yang vacuity and/or vice versa.

Japanese style "press pins" or "press tacs" may also be a valuable tool to address self-care between treatments. They can be applied to points locally or distal to the condition and self acu-pressure techniques can be taught to the patient along with breath work. I prefer them due to their excellent adhesive and detailed intervals of depths of the needle available for patient comfort. This gently stimulates qi in the obstructed pathway while the patient moves in daily life.

A case study published in the *Journal of Alternative and Complementary Medicine* found that a similar acupuncture approach as outlined here including moderate cardio exercise, avoiding strenuous activity, and with a balanced diet decreased pain by 70% (on average pain-free 5 days a week) led to drastic improvements in quality of life for the patient.

Pain reduction began three weeks into the treatment protocol (acupuncture 3x per week). Sustained reduction in pain was managed at six months into protocol. This encouraging case study demonstrates the potential these outlined approaches in Eastern medical care may have for many patients suffering from CRPS.

Practitioners, we welcome your Clinical Pearls about each of our topics. Please see our website for the topic and submission information: www.meridiansjaom.com Also check us out on Facebook.

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