

Scalp Acupuncture Treatment for Children with Autism and ADHD

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Abstract

Autism and ADHD are related to brain abnormality. Many studies show that scalp acupuncture is effective in treating neurological problems related to autism and ADHD. New study has found impairments in white matter in the main neural pathway connecting the right and left hemispheres of the brain in children with both autism and ADHD. The more we learn and know about brain functions, the more we can incorporate this knowledge into our clinical practice of scalp acupuncture. Needling scalp acupuncture on children with autistic and ADHD patients is very different from doing it with adult patients. This paper shares our clinical experiences and techniques on how to practice scalp acupuncture using various scalp acupuncture systems and the Neoh Scalp acupuncture system on autistic and ADHD patients.

Keywords : Autism, ADHD, Scalp Acupuncture, TCM

Introduction

Autism and ADHD are related to brain problems. A team of Toronto scientists has found similarities in brain impairments in children with autism spectrum disorder, attention deficit hyperactivity disorder (ADHD) and obsessive compulsive disorder (OCD), published in the American Journal of Psychiatry. They found impairments in white matter in the main tract

connecting the right and left hemispheres of the brain in children with either autism, ADHD or OCD, when compared to healthy children in the control group. This particular white matter tract, the corpus callosum, is the largest in the brain and among the first to develop. The research team, from CAMH, the Hospital for Sick Children and Holland Bloor Neohview Children's Rehabilitation Hospital, also found that children with autism and ADHD showed more severe impairments affecting more of the brain's white matter than those with OCD. This finding may reflect the fact that both autism and ADHD typically have an onset at a much younger age than OCD, and at a time when a number of different white matter tracts are going through rapid development. Autism, ADHD and OCD have common symptoms and are linked by some of the same genes. Investigators also believe their finding suggests that treatments targeting a spectrum of behaviors may be relevant for all three conditions. These refer to a group of complex neurodevelopment disorders characterized by repetitive and characteristic patterns of behavior and difficulties with social communication and interaction. The symptoms are present from early childhood and affect their daily functioning. They suffer from a wide range of symptoms, skills, and levels of disability in functioning. Many of these patients find social interactions difficult. Some may have very different verbal abilities ranging from no speech at all to speech that is fluent, but

awkward and inappropriate. Many of them engage in repetitive movements or unusual behaviors such as flapping their arms, rocking from side to side, or twirling. They may become preoccupied with parts of objects like the wheels on a toy truck. Some children are fully able to perform all activities of daily living while others require substantial support to perform basic activities. Roughly two-thirds of children with ADHD have at least one co-existing condition, while Autism Spectrum Disorders (ASD) are among the conditions that commonly occur with ADHD. Some studies suggest that up to half of all children with ASD also have ADHD. ADHD is marked by inattention, hyperactivity, and impulsivity.

Doctors try to help these children through modern Western medical knowledge and techniques, but not much has been achieved so far. So, in turn, we hope to use acupuncture and Chinese medicine to help these children. Hao Liu showed that scalp acupuncture attenuates neurological deficits in a rat model with hemorrhagic stroke. The observed behavioral effects were associated with improvement in pathological features and decreased markers of inflammation. Scalp Acupuncture, also known as Neuroacupuncture, is a treatment based on knowledge of traditional acupuncture and neurology. It is done by inserting acupuncture needles into the loose areolar tissue layer of the scalp to stimulate the brain neurons of the underlying area. It's a very safe treatment, since the skull protects the brain and there are no organs in the scalp to injure it. Scalp Acupuncture works by stimulating the brain cells that are related to the impaired functions. The mechanism is three-fold: to 'wake-up' the brain cells that are not dead but lacking in proper functioning, to encourage recruitment of healthy brain cells to perform the lost function and to promote a healthy reintegration of the brain system. Scalp Acupuncture is most commonly used for

post-stroke and brain surgery therapy. There is good clinical evidence for its treatment, not only of Aphasia, but other neurological problems including Paralysis, Parkinson's Disease, Multiple Sclerosis, Traumatic Brain Injury, Motor Neuron Diseases, Phantom Limb Syndrome, Meniere's Syndrome, Post-traumatic Stress Disorder, Chorea, Alzheimer's Disease, Restless Leg Syndrome and Attention Deficit Hyperactivity Disorder. Scalp Acupuncture can help regain speech in all kinds of Aphasia: expressive, receptive, anomic or global. Some reports already show that Scalp acupuncture for regaining consciousness and opening the orifice, can significantly improve the efficacy of autism, effectively relieve child autism symptoms and enhance intelligence, language ability and social adaptive ability. There are also reviews that cover introduction of traditional Chinese medicine (TCM) in treating attention-deficit/hyperactivity disorder (ADHD), focusing on the traditional theoretic basis from the perspective of TCM regarding ADHD's cause, pathogenesis, methods of syndrome differentiation, and rationale for treatment.

Not all doctors believe in TCM and acupuncture. Steven Novella states that "TCM is a pre-scientific superstitious view of biology and illness, similar to the humoral theory of Galen, or the notions of any pre-scientific culture". TCM really hasn't been doing a creditable job of healing people for thousands of years. Dugald Christie was a Scottish surgeon who served as a missionary doctor in northeastern China from 1883 to 1913. He wrote the book 'Thirty Years in Moukden' which stated that: "Chinese doctors own that they know nothing at all of surgery. They cannot tie an artery, amputate a finger or perform the simplest operation. The only mode of treatment in vogue which might be called surgical is acupuncture, practised for all kinds of ailments. The needles are of nine forms, and are frequently used red-hot, and occasionally left in the body for days.

Having no practical knowledge of anatomy, the practitioners often pass needles into large blood vessels and important organs, and immediate death has sometimes resulted!!” So, are many Western medically trained doctors today also suspicious about whether acupuncture can help to treat brain function or not? In Western medicine they can accept the concept that EEG leads over scalp skin can give information about brain function, but they cannot accept the idea that stimulation over scalp skin can affect and improve brain functions.

No such disease called Autism exists in TCM. In Chinese, Autism is called Self-Shut-Off Syndrome or the Lonely Syndrome. Traditionally in TCM, all children with mental retardation, cerebral palsy, autism, global developmental delay or delayed language development are grouped under the Syndrome of 5-Delays. This Syndrome is based on observed delays in hair growth, teeth eruption, speech, standing and walking. In the TCM concept, brain dysfunction in children is a disequilibrium of body functions. The etiology of disease, in the TCM concept, can include 6 exogenous factors (wind, cold, summer heat, dampness, dryness, fire) and 7 emotions (joy, anger, melancholy, worry, grief, fear and fright), together with improper diet, overstrain, lack of physical exercise, stagnated blood and phlegm fluid. In western concepts, this may affect the body's immune defense system. TCM doctors approach health and disease according to the philosophy of Yin-Yang, which encompasses balance and homeostasis of the universe, and the 5 elements (gold, wood, water, fire and soil). TCM practitioners differentiate syndromes according to 8 principles; Qi and Blood or according to the theory of Zang-Fu organs. The pathogenesis of disease is based on the disharmony of Yin and Yang, conflicts between antipathogenic Qi and Pathogenic Qi; or the abnormal descending or ascending Qi. Qi is the life energy that flows through the entire body. The

8 principles involve exterior/interior, cold/heat, deficiency/excess, and yin-yang. A TCM diagnosis has four components: Inspection, auscultation/olfaction, inquiring, and palpation. For inspection, one looks at the vitality, color and appearance of the 5 sense organs (eye, nose, ear, gums, lips/mouth, throat), and observes the tongue. For auscultation, one listens and smells. By inquiring, one asks leading and relevant questions that address heat versus cold, inside versus outside, and strong versus weak, while for palpation, one feels the pulse qualitatively and palpates other parts of the body. Integrating these 4 components with knowledge of Zang-fu and the meridian system helps the TCM doctor make a Syndromal diagnosis and develop a treatment based on TCM methodologies. Treatment choices include herbal medicine, natural medicine, acupuncture, Acu-Tuina or acu-massage.

The theory of acupuncture

The basic theory of acupuncture starts with the meridian system and flow of energy, or qi. The meridians cover all parts of the body and are divided into Yin and Yang meridians that are distributed in symmetry on the body surface. Meridians connect Zang-Fu organs to each other and to the surface of the body. The brain is connected with all of the Zang-Fu organs. Acupuncture can be used to balance Yin and Yang and to regulate the Zang-Fu organ functions via the flow of qi and blood through the meridian system. Acupuncture uses very thin needles, as thin as a head hair, which are inserted into targeted points in the body called acupoints. There are more than 500 acupoints in the body, linked through a system of 14 meridians, or pathways. Their stimulation may result in neural signaling, electromagnetic energy enhancement, neuro-immunomodulatory and neurochemical-hormonal effects. The fundamentals of scalp acupuncture therapy were reviewed by Lu Shoukang, of the Beijing College

of Acupuncture, Moxibustion, Orthopedics, and Traumatology, in the Journal of Traditional Chinese Medicine. According to this review, the technique is predominantly a small-needle therapy in which shu points in the scalp are treated. Shu points refer to “stream” points where the qi of the internal organs is infused. In the system of body acupuncture, there are 5 shu points (one for each element) on each of the 12 meridians (below the elbow or below the knee) plus the back shu points, which are each located in the vicinity of one of the internal organs. According to the theory of channels and collaterals, shu points in the head can be used to treat diseases of the whole body. The therapeutic effect of acupuncture depends on the acupoints selected and the type of stimulation used. Body acupuncture, electrical acupuncture, laser acupuncture, and even acupressure have been practiced. Traditional acupoints on the scalp and body have been found to be effective for treating children with brain dysfunction, resulting in improvement in the patient’s overall functional abilities. In recent years, acupuncture has been used in rehabilitation centers as part of treatment programs for children with developmental disorders including speech and language delay, cerebral palsy, mental retardation, ADHD, and autism. All of the reviewed articles invariably reported improvement in autistic children who received a form of acupuncture with or without concurrent behavioral intervention. All of the clinical trials reported superior effects of acupuncture over conventional treatment. All reported high tolerability to acupuncture, including severely autistic children with behavioral symptoms. No specific significant side effects were reported in any of the studies reviewed.

Scalp acupuncture is, however, a modern technique with just 40 years of history. Scalp acupuncture is a specialized area of acupuncture that has been in development since the 1970’s.

Though acupuncture has been a part of TCM for thousands of years, scalp acupuncture is a relatively new specialization and a few variations have emerged. Scalp acupuncture is one of several specialized acupuncture techniques with a specific body location, taking its place alongside ear, nose, hand, foot, and wrist/ankle acupuncture. In the West, many healthcare practitioners are familiar with acupuncture for pain management. In contrast, scalp acupuncture is a new therapy for use as the primary tool for rehabilitation. It is still not easy for medical practitioners and the public to understand how scalp acupuncture may help in recovery from paralysis, aphasia, and ataxia, all conditions for which Western medicine has few effective treatments. The more general acupuncture therapy is often called body acupuncture. The location of scalp acupuncture areas are based on the reflex somatotopic system organised in the surface of the scalp in Western medicine. It is very much linked to brain anatomy and not to the traditional Chinese medicine meridian system. An understanding and study of brain anatomy are required for the practice of scalp acupuncture. The more knowledge about brain function, the better the selection for scalp acupuncture points treatment. Scalp acupuncture consists of needling zones rather than points on the skull according to brain neuroanatomy and neurophysiology. Scalp acupuncture needles are subcutaneously inserted into whole sections of various zones, unlike the single point insertion of traditional acupuncture. These zones are specific areas through which the functions of the nervous and endocrine systems are transported to and from the surface of the scalp. These zones correspond to the cortical areas of the cerebrum and cerebellum responsible for central nervous system functions such as motor activity, sensory input, vision, speech, hearing and balance. By stimulating these reflex areas, acupuncture can directly affect the cerebral cortex, cerebellum,

thalamus cortical circuits, thalamus, hypothalamus and pineal body.

There are three basic features of scalp acupuncture that differentiate it from body acupuncture. Firstly, treatment zones have been mapped onto the scalp which are associated with body functions and broad body regions. Functional zones, such as sensory, memory, and motor, are usually located at the back and sides of the scalp. Secondly, in scalp acupuncture, the needles are inserted within a thin layer of loose tissue beneath the scalp surface, at a low angle of about 15–30 degrees. Thirdly, for scalp acupuncture, the needles are subjected to rapid stimulation, which may be carried out in a variety of ways, including pulling/thrusting, twirling, and electro-stimulation.

The modern system of scalp acupuncture in China has been explored and developed since the 1950s. Various famous physicians introduced Western neurophysiology into the field of acupuncture and explored correlations between the brain and human body. In these early years of its development, there were several hypotheses for mapping stimulation areas. For example, Fan Yunpeng mapped the scalp area as a prone homunculus with the head toward the forehead and the legs toward the occipital area. Taking a dividing line, that connects the left ear to the vertex to the right ear, Tang Song-yan proposed two homunculi on the scalp, one in the prone position and another in the supine position. Zhang Ming-jiu's and Yu Zhi-shun's scalp locations are formulated by penetrating regular head points, and Zhu Ming-qing created several special therapeutic bands on the scalp (Figure 1). Dr Jiao Shunfa, a neurosurgeon in Shanxi province in China, is the recognized founder of Chinese scalp acupuncture. He systematically undertook the scientific exploration and charting of scalp correspondence

starting in 1971. Dr Jiao combined a modern understanding of neuroanatomy and neurophysiology with traditional techniques of Chinese acupuncture to develop a radical new tool for affecting the functions of the central nervous system. During the 1970's, scalp acupuncture was developed as a complete acupuncture system. Three major contributors to the development of this system, Jiao Shunfa, Fang Yunpeng, and Tang Songyan, each proposed different diagrams and groupings of scalp acupuncture points. For example, Jiao divided the scalp points into motor and sensory areas, Fang divided them into writing (speech) and reading (memory) centers, and Tang into upper, middle, and lower burner areas. Several different methods of needling were proposed. Jiao advocated rapid twirling with penetrating and transverse needling; Fang favored the slight twirling method and oblique needling; while Tang recommended long-duration needle retention with superficial stimulation of the needles, using the lifting and thrusting method. Fang Acupuncture is a complete and independent acupuncture system, different from the Traditional acupuncture system. It was created by Dr. Yun Peng Fang (1909~1990 China), based on the theory of Traditional Chinese Medicine and his long time large amount of clinic research. Fang's Acupuncture consists of three major parts which are Fang's scalp acupuncture, Fang's Ti Huan (body circular) acupuncture and Fang's hand and foot holography acupuncture. Because the three parts' functions cross each other and cover the whole body, Fang acupuncture could be used to treat most diseases. Thus, scalp acupuncture is not really a single system, but a multiplicity of systems still in development, with a 30-year history of practical experience.

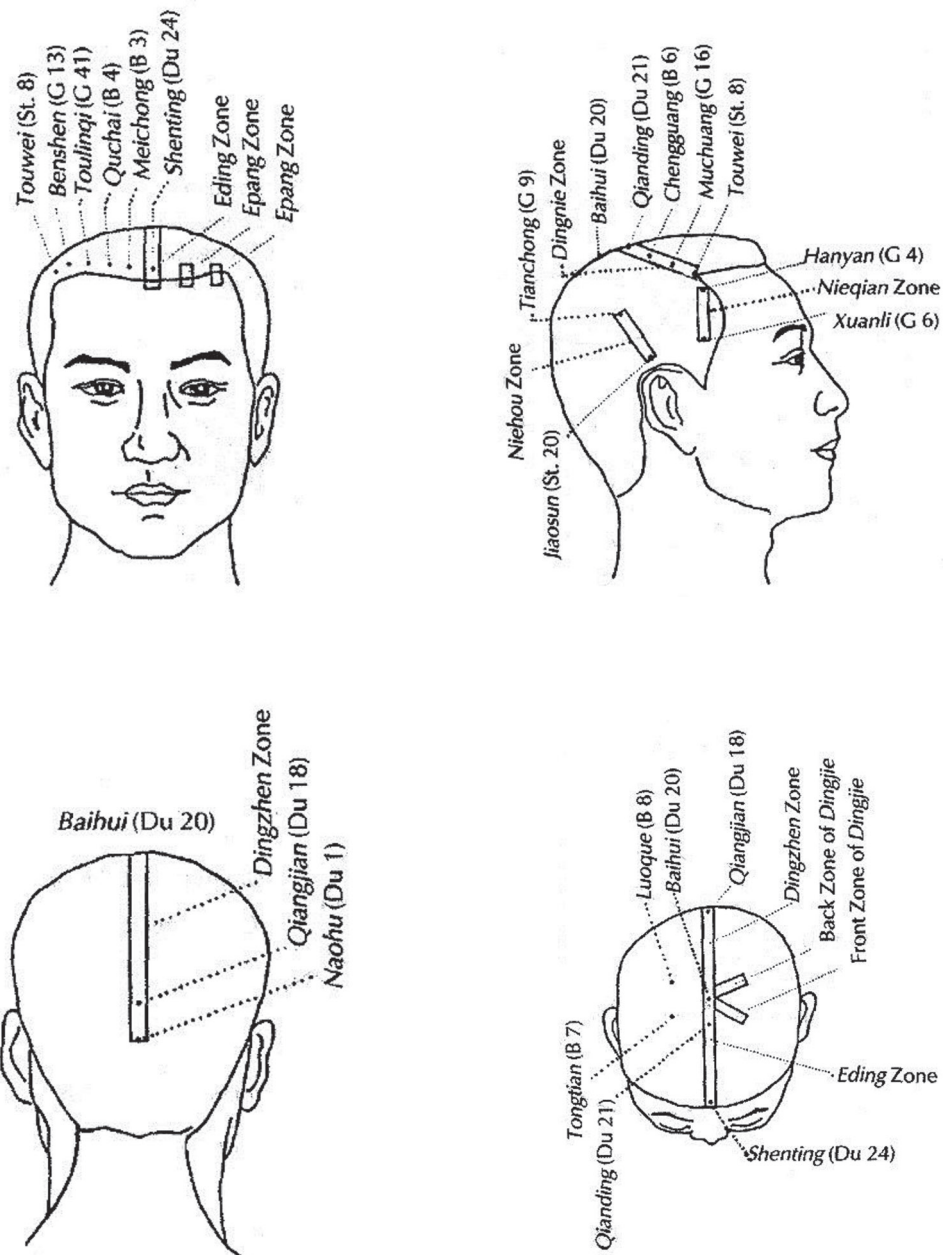


Figure 1 : Zhu's Scalp Acupuncture Zone Charts

According to Dr. Zhu, Baihui (GV-20) is the basis of all the scalp points. Quoting from the Ling Shu: “The brain is a sea of marrow. Its upper part lies beneath the scalp, at the vertex, at the point Baihui.” The point’s Chinese name indicates that it is the great meeting place (literally: hundred meetings). Traditionally, this point is treated to stabilize the ascending yang; it is also needled in order to clear the senses and calm the spirit. The Governing Vessel enters the brain at point Fengfu (GV-16). In Zhu’s system of acupuncture, there are three main zones (designated the Eding zone, Dingzhen zone and Dingnie zone) subdivided into a total of 11 portions, and three secondary zones, each divided into two portions (designated Epang 1, Epang 2, front zone of Dingjie, back zone of Dingjie, Niehou and Nieqian). The zone names are simply based on anatomical descriptions. The following is a review of the primary scalp acupuncture zones. For Zhu’s needle stimulation technique (thrust and pull method), a somewhat finer needle gauge of 32 or 34 is suitable for most cases, and the insertion length is approximately 1 cun. The patient should not feel pain, though there are some rarely used scalp points along the sides of the head, mentioned above, that typically produce pain. The affected part of the body is to be moved during needle stimulation. This is the most important key point in scalp acupuncture practice. If patients cannot make the movement by themselves, then they will visualize moving their breath to the affected part and, when possible, an assistant will move the body part, on needling the affected part or specific limb acupuncture points. Neoh calls it bidirectional stimulation for those without spontaneous response. After needle stimulation, the patient is encouraged to continue the movements. In cases where the legs are involved, the patient walks, if possible. Scalp acupuncture helps to improve or re-establish the connections from the central nervous system to the peripheral nervous system.

The sending of signals between these two parts of the nervous system during treatment is critical. The intention of the patient to move the affected body part (or the needle stimulating the affected part), sends signals from the central nervous system to the periphery, while actual movements of the body part send signals from the periphery back to the central system, hopefully rebuilding a good circuit again.

Most traditional medicine physicians believe that scalp acupuncture can help regain consciousness, and opening the orifice can significantly improve the efficacy of autism, effectively relieve child autism symptoms and enhance the intelligence, language ability and social adaptive abilities. Beside the Zhu system, there are many different schools of scalp acupuncture teaching. The International Standard scalp Acupuncture, Jiao’s Scalp Acupuncture, Fang’s Scalp Acupuncture and Tang’s Scalp Acupuncture are prominent systems. Which one is the best? Can we combine those different schools of scalp acupuncture to treat autism and ADHD? When to use which one? In the author’s clinic, we used Zhu’s, Fang’s, Jiao’s, Fang’s and Neoh’s Scalp Acupuncture systems to treat our patients. We treat each patient individually according to their suffering. Practicing scalp acupuncture on adults is quite different from doing it on children. Usually children will not sit quietly for scalp acupuncture, and will cry or move about, or struggle, especially those with autism. Their scalps are also much thinner than adults. It is interesting to find that the scalp thickness grows proportionally with the child to adulthood, and then becomes thinner as they get older, which is also proportional to brain atrophy. As more knowledge has become available about brain function and neuro-anatomy, many advances have been made in scalp acupuncture.

There are now several styles of scalp acupuncture. Zhu scalp acupuncture is based on the style used and taught by Dr. Ming Qing Zhu,

who is well known for his innovative work with strokes and other neurological problems. Other prominent scalp acupuncture systems include The International Standard Scalp Acupuncture, Zhu's Scalp Acupuncture, Jiao's Scalp Acupuncture, Fang's Scalp Acupuncture and Tang's Scalp Acupuncture. There is also one system from Japan, the Yamamoto New Scalp Acupuncture (YNSA). They vary somewhat in needle location, needle manipulation technique, and needle retention time. Sometimes the hand in one system may be the leg in another system. So we developed the Neoh Scalp Acupuncture System to make it much easier to be learned by Western trained medical physicians (Figure 2, 3). No matter which system of scalp acupuncture, the specialized scalp acupuncture needle used, involves the insertion of short, thin, disposable needles between the skin of the head and the skull. Specific areas of the head are used for particular ailments since different parts of the brain control different areas of the body. The right side of the brain controls the left side of the body and the left brain controls the right side of the body, so the needles are placed accordingly. Interestingly, Corpus callosum is frequently neglected by most doctors although it is so closely related to Autism and ADHD. The corpus callosum (CC) is the largest white matter tract in the human brain, interconnecting homologous association areas of both hemispheres with approximately 180 million callosal fibers passing through it. The CC receives abundant blood supply from both the anterior and posterior cerebral circulation. The rostrum and genu are supplied by the subcallosal and the medial callosal artery, respectively. Both vessels are derived from the anterior communicating artery. Damage to the CC usually produces disturbance of higher brain function. Giroud and Dumas described two classical symptoms of the CC infarction: (1) callosal disconnection syndrome including apraxia, agraphia, tactile anomia of the left hand, and

alien hand syndrome (AHS) as well as (2) frontal type gait disorders including a wide base, shuffling gait with short steps and loss of concomitant arm swing as the result of lacunar lesions in the anterior CC portion. Neoh Scalp Acupuncture stresses the importance of needling the corpus callosum reflex area over the scalp. Trying to figure out which area is the corresponding scalp acupuncture treatment zone for corpus callosum is very important. In the Yongxin Li study: "The Effect of Acupuncture on the Motor Function and White Matter Microstructure in Ischemic Stroke Patients", acupuncture was performed at the Baihui (GV20), Fengchi (GB20, bilateral), Xuanzhong (GB39, bilateral), Quchi (LI11 bilateral), Hegu (LI4, bilateral), Zusanli (ST36, bilateral), and Sanyinjiao (SP6, bilateral) acupoints. His study demonstrated that there was an improvement in motor function after acupuncture treatment, compared to conventional treatment. In his study, neuroimaging results showed that diffusion indices in white matter tracts were significantly enhanced one month after treatment. So, we added Baihui and Fengchi for our autistic and ADHD patients. Scalp acupuncture for children needs to be done very quickly and precisely, as they are impatient with slow treatment. Once inserted, the needles are gently manipulated while the acupuncturist or family moves or massages the affected limb or specific area of the patient's body. The patient may be instructed to concentrate on the area that is being manipulated, for greater movement of the body's energy to that area. Autistic children find it more difficult to follow instructions and they will automatically concentrate on the needles in their scalp, due to curiosity or fright of the needles. This is very important and the key to success of scalp acupuncture. Some systems may be more effective for certain symptoms. Sometimes, we need to incorporate a different system to obtain a better result. Some children are more sensitive to different scalp acupuncture system treatment.

After scalp acupuncture needling, if the child continues to cry, it means the needle is too deep, and may be affecting the periosteal, requiring slight needle withdrawal until the child stops crying or feeling irritated. The child must be observed for any adverse effects such as needling fainting or any other discomfort. The frequency and duration of the treatment can be highly variable. It is more effective to do rehabilitation while the needle remains in their scalp. After being treated with scalp acupuncture for stimulation of their speech, motor and sensory, and mental areas, once a week for years, patients' mental development, dysarthria, ataxia, weakness of legs, spastic gait, arms, and hands showed noticeable improvement from each scalp acupuncture treatment. Our rehabilitation department reported that it was easier for them to rehabilitate these patients, after scalp acupuncture treatment. Although no patient has recovered completely, our rehabilitation therapists ask these patients to have scalp acupuncture and leave the acupuncture needles in their scalps while they help them with

rehabilitation. It seems that the longer an acupuncture needle stays in the child's head, the better the result. Scalp acupuncture and modern rehabilitation therapy have synergistic action on infantile cerebral palsy. Body points are sometimes used as an adjunct to scalp acupuncture therapy. We use relatively few body points as adjunction, but emphasize obtaining the qi sensation with propagation of the qi sensation towards the affected part. Examples of body points are ST-36 for lower limb weakness, or LI-11 or GB-20 for arm weakness. If a body part affected by disease or injury involves very localized pain or spasm, we use body points primarily for local treatment and usually with deep needling. Body points are sometimes selected because of failure to obtain the desired qi reaction when using scalp points. We call this method the "Neoh bidirectional stimulation method". The body needles are also retained during the full length of a patient's long scalp acupuncture treatment, for up to two hours, not just 20–30 minutes, as is often the case with standard acupuncture therapy.

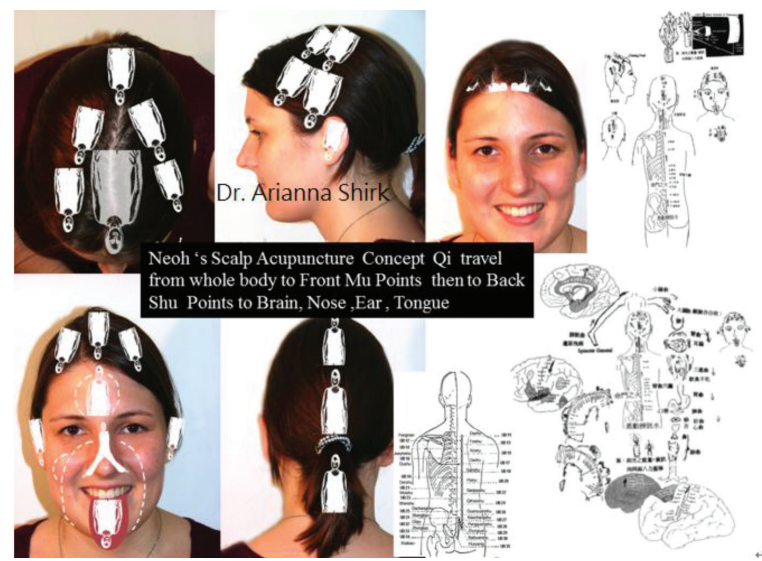


Figure 2 : Neoh's Scalp Acupuncture causes Qi from Front Mu to flow through to Back Shu Points, then travel up to the brain, nose, tongue and ears (Neoh Qi flow theory can be explained by the holograms of micro-acupuncture of the nose, tongue , ear and various scalp acupuncture).

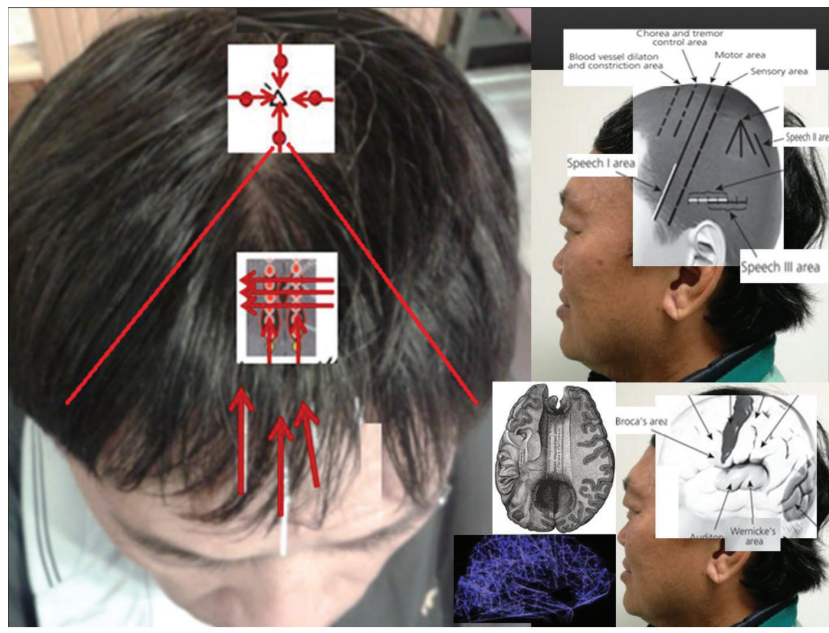


Figure 3: Neoh's Scalp Acupuncture stresses the importance of the corpus callosum

Conclusions and Discussions

Autism in Chinese medicine is classified under the Syndrome of 5 Delays. The “delays” are observed in the areas of standing, walking, hair growth, teeth eruption and speech. This type of brain dysfunction in children, classical autism characteristics, is seen in traditional Chinese medicine as an imbalance of body functions. Based on the yin/yang theory, TCM views disease within the framework of energy balance. In Chinese medicine, reason and awareness, which are strongly affected by autism, are primarily ruled by three organ systems: the Heart, Spleen and Kidney. The Heart holds the Mind or Shen and rules the mental functions, including the emotional state of the individual and short-term memory. The Spleen is linked to the mind's ability to study, memorize, and concentrate. Kidney qi rules over long-term memory. A disturbance in these areas can lead to displays of any autism characteristic. Eliminating phlegm is crucial because it is involved with the two primary Chinese medicine diagnoses of

autism. Phlegm misting of the mind leads to dull wit and incoherent speech, mental confusion, lethargy and limited attention to surroundings. The condition of phlegm fire, harassing the heart, presents as disturbed sleep, talking to oneself, uncontrolled laughing or crying, short temper and a tendency toward constipation and aggression. Balance in the heart is another key element because heart blood or yin deficiency, as well as heart fire, will prompt an autism symptom of different extremes such as, lethargy and quietness, fidgety restlessness, or aggressive behaviors. Spleen qi deficiency and kidney essence deficiency are central to the pathology of autism, the former affecting food intake (no interest in food, or excessive hunger), while the latter will result in poor mental development. Acupuncture efficacy can possibly be explained by the medical theory that autism is in part a neuroendocrine dysfunction and a result of the incorrect production of opioids. According to the book *Scientific Bases of Acupuncture*, acupuncture affects opioids, the

central nervous system and neuroendocrine function. These cases demonstrate that scalp acupuncture can be helpful in treatment of children with autism and brain development disorder. Scalp acupuncture can go side by side with neurologist treatment and rehabilitation. The Neoh Scalp Acupuncture System is a growing and continually improving system. In TCM, doctors focus more on reinforcing what children lack. TCM holds the view that autism is an inborn problem of slow development of shen (spirit/brain), and this problem is believed to be caused by deficient primary energy that the child was born with. This energy is a major source of brain growth, according to TCM, and without sufficient energy, heart Qi, children cannot develop their shen. In TCM, the brain is related to Shen and Shen is related to Heart! So if the patient is an older child or an adult, we will needle their heart point on the meridian, and their palm and foot at the auricular point, the Su Juk acupuncture point.

The more we know about the autistic brain and brain development disorder, the more we can

use new scalp acupuncture points to help treat them. Baihui and Fengchi are two must points for treatment. A new database that houses brain scans from 17 labs world-wide will allow scientists to study brain connectivity and function in autism. The database, called the Autism Brain Imaging Data Exchange, gives scientists access to more than 1,000 brain scans of people with autism and controls.

The researchers have already shown its potential by resolving inconsistent results on the strength of connectivity in autistic brains. So we started using these new findings to develop new Neoh Scalp Acupuncture points to treat patients. Neoh Scalp acupuncture forms a basic model for brain development, autism and ADHD by integrating Jin's "Sanzhen", Yamamoto Scalp acupuncture, TCM open orifice points, Zhu's system, etc. therapies. For example, we put more needles over their right hemisphere limbic system area, and do more stimulation over their speech areas I, II and III. It turns out that we have better results than when we previously used traditional points.

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