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# Acupuncture To Reduce Self-Injury Behavior In Pediatric Autism Spectrum Disorder: A Case Report

By Brandy Peacock, MS

## Abstract

The patient was a four-year-old female with a history of self-injury in the form of biting and emotional outbursts beyond those of her peers. At three years old, she had been diagnosed with cognitive developmental delays, attention deficit disorder (ADD), and autism spectrum disorder (ASD) with self-injury behavior (SIB). No genetic testing was done to rule out or attribute behavior to, and there was no family history of the same diagnoses. This patient's outbursts and self-injury began around the age of one. Outbursts could last up to 30 minutes and then suddenly stop.

When the patient started learning to communicate better with speech therapy and age-related development, outbursts went from almost daily or every few days to once a week or every other week. After a year, the patient began receiving weekly Eastern Asian medicine (EAM) treatment for four months. Treatments included tuning fork, shōnishin, acupuncture, essential oils, and ear seeds. She was also drawn to chewing on a nickel-sized ball of loose moxa and spitting it out at the end of her visit. Following the addition of acupuncture, self-injury episodes decreased to two or three times a month with much less intensity.

Weekly EAM treatment could be an effective adjunctive intervention in children under five years old displaying self-harm due to ASD. It may also contribute to the ability to focus when made more difficult by ADD.

**Keywords:** acupuncture, self-injury behavior (SIB), autism spectrum disorder (ASD), attention deficit disorder (ADD), Eastern Asian medicine (EAM), traditional Chinese medicine (TCM)

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## Introduction

According to the World Health Organization, autism spectrum disorders (ASD) are a diverse group of conditions characterized by some degree of difficulty with social interaction and communication that can evolve (WHO, 2022). Self-injury behaviors (SIB) are ubiquitous in individuals with ASD (Rattaz et al., 2015). Self-injuries among this population include but are not limited to banging the head or body with other parts of the body or objects, self-biting, self-scratching, self-pinching, gouging body cavities with fingers, self-hair pulling, repetitive behavior patterns/bouts such as body rocking, and hand flapping (Duerden et al., 2012; Rojahn et al., 2015). Individuals with intellectual and developmental disabilities (IDD) are also at risk for SIB and aggressive outbursts, which can get worse over time (Rojahn et al., 2015).

There is marked developmental regression in children with ASD and accompanying SIB, which can be due to a lack of resources, lack of proper diagnosis, or inability of the child to communicate (Soke et al., 2016). More research on the comorbid topic of communication difficulty and SIB is particularly warranted (Soke et al., 2016). Another study suggests that there are seven factors leading to SIB, including atypical sensory processing (the predominant factor), impaired cognitive ability, abnormal functional communication, abnormal social functioning, age, the need for sameness, and rituals and compulsions (Duerden et al., 2012).

Data reported by the CDC in 2018 suggest that ASD in 8-year-olds is more prevalent in males. Though ASD is reported to occur in all racial and ethnic groups, it's slightly more predominant in the Hispanic demographic, though the data do not fully represent the entire US (NIMH, 2022). In a group of 2,234 children with ASD, more white males were also diagnosed with SIB (Soke et al., 2016).

The pharmaceutical treatment of SIB is explicitly limited to aripiprazole and risperidone in conjunction with behavioral therapies (Fung et al., 2016). Other possible pharmaceutical treatments, like clonidine, N-acetylcysteine, and riluzole, among others, show low effectiveness in treating SIB in ASD adolescents (Sabus et al., 2019). There is research suggesting electroconvulsive therapy (ECT) in severe SIB cases where adolescents are engaging in more devastating forms of self-injury SIB at a higher frequency rate per hour (Soke et al., 2016).

Traditional Chinese Medicine: The relationship between the mind (shen, associated with the Heart organ system) and the ethereal soul (hun, associated with the Liver organ system) can account for modern mental health pathologies like depression, bipolar disorder, and schizophrenia (Maciocia, 2009). It can also describe the foundation for pathologies like ADD and ASD by encompassing the dysfunctional movement of the hun—blood and qi pathologies and a catalog of other roots and branches.

Luckman (2018) wrote that inflammation or heat on the three yang meridians had been observed in children diagnosed with ASD. These "hot spots" tended to run along the side of the head, in front of the face, and across the thyroid gland and armpits. Acupoints showing signs of heat were GB1 (Tongziliao), GB2 (Tinghui), GB3 (Shangguan), GB15 (Toulinqi), GB22 (Yuanye), BL37 (Yinmen), BL40 (Weizhong), ST1 (Chengqi), ST2 (Sibai), ST3 (Jujiao), ST4 (Dicang), ST12 (Quepen), with lengths on the associated channels (Luckmann, 2018).

In a 2018 study, children between the ages of 2 and 11 diagnosed with ASD were treated with scalp acupuncture for thirty sessions. They showed an improvement in verbal communication and social and behavioral issues (Yau et al., 2018). A study published in 2020 showed a vast improvement in comprehension, expression, and social interaction in 2 to 8-year-olds with ASD treated with laser acupuncture compared to placebo. (Surapaty et al., 2020). A 2023 meta-analysis showed acupuncture to be more effective than the standard of care in children with attention deficit hyperactive disorder (ADHD) (Ang et al., 2023). Acupuncture in the more formative growth years, especially ages 2 to 3, may be considerably more beneficial to children with ASD as a non-invasive form of early intervention (Yau et al., 2018).

## Case Presentation and Diagnosis

This patient was a four-year-old female whose mother sought help with episodes of self-injury in the form of biting. Her mother described the self-injury episodes as explosive and violent, leading to the patient biting herself and also her mother. These bites left severe bruises and welts and often would break the skin, causing bleeding. Even when the mother held the child to try to prevent her from biting, the violence of the outburst left her unable to avert the self-injury entirely. Initially, these episodes occurred every one to three days.

This patient's outbursts and self-injury began when she was a year old. The mom was not able to identify triggers at the time. However, she later determined that her daughter's developmental delay made it difficult for her to communicate, with frustration leading to violent emotional outbursts and self-injury.

This patient experienced an idiopathic stroke at birth and three seizures immediately afterward; no seizures have been identified since the day of birth. At the age of three, this patient was diagnosed with cognitive developmental delays, ADD, and ASD.

The patient's mom reported that her daughter had "control issues" and was unable to "just let things be." When she played, everything had to be in order; even if adults were not playing, they had to be in specific locations; otherwise, an outburst could occur. This began subtly around two years of age and progressed into more apparent and intentionally controlled environmental "set-ups." The child needed to arrange her environment to make it comfortable or, seemingly, tolerable.

Difficulty between her parents began when the child was about two years old. Verbal and occasional physical aggression was directed toward the mom by the other parent with the toddler present. The mom noticed more aggressive behavior from her daughter around this time, such as spitting in her mom's face and pushing her plate filled with food onto the ground. The mom and the daughter moved out of the house and away from the other parent, and the child's aggressive behavior slightly decreased. However, outbursts and self-injury increased as her routines and familiar surroundings suddenly changed.

The patient would get very hot at night but did not sweat. She slept through the night. Her urination was normal, though she still wore night-time training diapers. Even with good water intake, she was easily constipated and passed hard stools. Her diet included eggs, plain tuna, and carrots with hummus. She ate various foods but still had complex preferences and needed each item separated on her plate. She would go long periods without eating and then suddenly be starving, which could also trigger an outburst, sometimes including self-injury in the form of biting.

Outbursts lasted about 30 minutes, then would suddenly stop. The mom noticed that if she refrained from trying to console her daughter, she would bite herself but end the outburst on her own in 15-20 minutes. If her mom did

try to console her to prevent self-injury, the outburst would last longer and often intensify, sometimes leading to the mom being bitten as well.

Under her eyes, the patient's tissue was dark and puffy. Small in stature for her age, she was at the low end of the normal weight range. Her moods would fluctuate between calm and aggressive, often very rapidly. She was easily irritated but would present as somewhat even-tempered when it was time for her treatment.

Diagnosis	Signs and Symptoms
Kidney (KI) yin deficiency	Events she experienced at birth damaging KI essence, developmental delay, dark and puffy circles under her eyes even after eating
Liver (LR) qi stagnation overacting on Spleen (SP)	Predominate emotions of anger and aggression, easily irritated, poor appetite, constipation, and dry stool
SP qi xu leading to phlegm fire	Manic behavior with outbursts, underweight, low appetite, easily agitated
Shen disturbance	Violent outbursts, self-injury, rapid mood changes
Hun (part of LR organ system) dysfunction leading to stagnation	ASD diagnosis, behavioral outbursts, self-injury, inability to self-regulate

Table 1. TCM diagnostic assessment

## Treatment

The patient did not like contact. If the practitioner asked to look at her tongue, she would bite the tip and make it bleed, so tongue and pulse assessments were discontinued. During the first treatment, the practitioner started with shōnishin techniques. She let the patient choose one of the tools to "treat" the practitioner. Whether intentional or not, the patient used the tool on the practitioner and drew blood. The mom asked that shōnishin tools not be used again to avoid injury.

With each weekly follow-up visit, the young patient put some loose moxa in her mouth to chew and spit out after treatment. Depending on the patient's tolerance, the practitioner would needle DU20 (Baihui) toward DU24 (Shenting) and GB13 (Benshen) with DBC 0.16mm x 15mm acupuncture

needles for 3-5 minutes. A 128 Hz tuning fork was used on KI1 (Yongquan), ST36 (Zusanli), and BL23 (Shenshu). Gold ear ion pellets were placed on ear Shenmen, PC6 (Neiguan), HT7 (Shenmen), and LU9 (Taiyuan). An essential oil, dōTERRA "Serenity," was used on KI7 (Fuliu), KI16 (Zhaohai), and KI27 (Shufu).

The patient's mom was instructed on how to use a tuning fork on the patient at home by holding the tuning fork by the stem, striking the prongs against the opposite palm, and then placing the stem on DU20 (Bai Hui) every morning and evening before bed. Every other visit, Speech #2 points on the scalp were needled with DBC 0.16mm x 15mm acupuncture needles for three to five minutes, depending on the patient's tolerance, as she did not like this area being needled. The practitioner treated the patient weekly for four months.

## Outcomes

The patient's mom reported significant changes in behavior on rides home, with no outbursts and a calm demeanor. Milder behavior only lasted 2-3 days in the first 2-3 weeks of treatment, but outbursts began to decrease. The patient began using words more to express what she wanted after five weeks, and her mom believed this was due to being able to process her surroundings and have the calmness necessary to use her verbal abilities. Instances of biting SIB decreased significantly from several times to once a week and every other week after 6-8 weeks.

By the end of the course of treatment, the patient was more communicative with her mom and able to express her feelings. Her behavior toward her mom also softened and became more affectionate. Six months after treatment ended, the mom informed the practitioner that they still had a home routine that continued to help: tuning fork on DU20 (Bai Hui), dōTERRA Serenity essential oil on KI1 (Yong Quan), KI7 (Fu Liu), KI16 (Zhao Hai), and KI27 (Shu Fu) each night before bed as instructed. The mom reported that although SIB and outbursts continued, they occurred only two to three times a month.

## Discussion

The author knows of no statistically significant data leading to a comprehensive treatment plan for children with SIB as a comorbidity with ASD and ADD. From a traditional Eastern Asian medicine perspective, all three related conditions are associated with the shen (spirit, mind, also called the

ethereal soul in some traditions). Because acupuncture recognizes and treats the shen, it could be considered part of integrative care in the early developmental stages of children with ASD.

With acupuncture, this patient became comfortable with limited needling and the ability to say "no more." She was less reluctant to engage in treatment and had decreased instances of agitation. It also helped to reduce instances of SIB at home, offering set routines with modalities she could do on her own, such as the tuning fork, handling loose moxa, and having loose moxa in her mouth.

Little research focusing on SIB includes Eastern Asian medicine modalities. As SIB in children with ASD is as high as 50% (Dimian et al., 2017), the benefits of acupuncture for the condition could be a helpful study topic. Focusing on verbal communication might be a starting point in reducing behavioral outbursts and instances of SIB (Yau et al., 2018).

## Conclusion

Due to a stroke within the first 32 hours of this patient's birth, it would seem, in Eastern Asian medicine, that her shen (mind or spirit) did not have a sufficient place to anchor, thus weakening the link to the hun (ethereal soul) and creating obstructions and deficiencies that she has had to both adapt to and work to overcome.

With improved biomedical diagnostic tools and evaluations recognizing ASD and ADD much earlier and technologies to help treat these symptoms, there can be a place for Eastern Asian medicine in the integrative medical support of these pathologies. Research involving the treatment of ASD with acupuncture has shown to be beneficial, especially in areas of communication. With this patient, in particular, her SIB decreased with acupuncture to treat ASD and ADD. Long-term integrative care could significantly support her quality of life and neurodevelopment.

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## Disclosure Statement



The author reported no conflicts of interest.

## Informed Consent and Statement of Safety

The mother signed an informed consent acknowledging this case report and the possibility of its publication. She was given a copy of the signed informed consent, which is retained in the practitioner's records. There were no safety concerns regarding treatment or this case report.

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