

## Status and strategies analysis on international standardization of auricular acupuncture points

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### Abstract

**OBJECTIVE:** To supply literature for developing an international standard of auricular acupuncture points.

**METHODS:** Electronic database searches were conducted in the Chinese National Knowledge Infrastructure and VIP, and the Western databases, Pubmed, the National Science and Technology Library, and the German Journal of Acupuncture, from 1990 to April, 2012. We also searched the documents of international symposiums for auricular acupuncture points (AAPs). Keywords were "auricular points", "auricular acupuncture points", "ear points", or "auriculotherapy".

**RESULTS:** Basic and clinical research on AAPs was performed in China, the United States, France, and

Germany. Clinical AAP research was done in Italy, Austria, Switzerland, Spain, the UK, Holland, Japan, Russia, and Africa. However, AAP research was not communicated internationally. The World Federation of Acupuncture-Moxibustion Societies recommended international standard of auricular acupuncture points (ISAAPs). Standardized nomenclature and locations of AAPs would provide a solid basis to draft an international standard organization.

**CONCLUSION:** Experts need to find common points from different countries or regions, provide evidence of different ideas, and list the proposal as a recommendation for an international standard.

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**Key words:** Acupuncture, ear; Reference standards; Information storage and retrieval

### INTRODUCTION

The diagnosis and treatment of auricular acupuncture points (AAPs), one of the most popular therapies in the micro-acupuncture system, has prominent clinical therapeutic effects and extensive applications. However, there are different auricular schools in China, the United States, France, Germany, and Italy. China, the origin of AAPs, started the standardization of AAPs in the late 1980s.

China published the following standards: Nomenclature and Location of AAPs (GB/T13734-1992),<sup>1</sup> Nomenclature and Location of AAPs (GB/T13734-2008),<sup>2</sup> Auricular Acupuncture—the 3rd part of the criterion of acupuncture-moxibustion manipulation techniques,<sup>3</sup> and Auricular Massage for Health

Care—the 6th part of the criterion of TCM health care manipulation techniques.<sup>4</sup>

At the end of 2011, the World Federation of Acupuncture-Moxibustion Societies (WFAS) published its professional international standard, Nomenclature and Location of AAPs.<sup>5</sup> Meanwhile, France proposed the Universal Nomenclature of Auriculotherapy. Experts from the United States, France, Germany, and Italy offered their proposals for promoting an international standard of auricular acupuncture points (ISAAPs).

## METHODS

### *Literature sources and search strategy*

We searched the Chinese databases, the Chinese National Knowledge Infrastructure and VIP, and the Western databases, Pubmed, the National Science and Technology Library, and the German Journal of Acupuncture, from 1990 to April, 2012. The documents of international symposiums of AAPs were also searched. Keywords were: "auricular points", "auricular acupuncture points", "ear points", and "auriculotherapy".

### *Data extraction and analysis*

AAP maps from different countries and the documents of all international symposiums were collected, summarized, and classified into basic research, clinical research, and standard research. Documents were compared for unified ISAAPs.

## RESULTS

### *Analysis of the AAPs status*

For nomenclature of AAPs, a Chinese draft of ISAAPs was developed with a statistical and literature study. The principle of nomenclature in the integration of Chinese and Western Medicine was emphasized. It is presented in English.

For the location of AAPs, based on the anatomy of the surface of the ear, the report adopted the standardization of zones and points combined to cover the ear. By integrating anatomy, morphology, mathematics, and auricular acupuncture studies, the report clarified the boundary of anatomical structures on the surface of the auricle. This ISAAP resulted in the creation of a new system of AAP locations based on the latest studies from American and European countries.

The drafts of ISAAPs proposed by the United States, Germany, and France were over-idealized and poor in clinical application. Oleson put forward a method of auricle zone nomenclature<sup>6</sup> in 1983 and in 1996.<sup>7</sup> He proposed to name the zones by English letters and numbers. However, there were only zones, and no AAP names. He used the zones to mark Chinese and European AAPs.

Wojak divided the zones into subzones using abscissa

and vertical coordinates in 2010. However, this was difficult to use clinically because it was not convenient for manipulation.

Alimi made the surface of the auricle into a semicircle with 20 equal parts by taking the conjunction of the ear helix, tragus, and lobe with the face as the basic lines in 2010. He then took the crossing point of the lines passing through the transaction and coronal section of corpus callosum as the center. His thinking was similar to that of Wojak but this was also difficult to apply clinically.

### *Analysis of AAPs approved by previous international symposiums*

There were 39 AAPs discussed and approved by the WHO in 1990<sup>8</sup> including: ear center, urethra, external genitals, anus, ear apex, finger, wrist, elbow, shoulder, heel, ankle, knee, buttock and hip, sciatic nerve, sympathetic nerve, cervical vertebra, thoracic vertebra, neck, thorax, shenmen, external nose, apex of tragus, pharynx and larynx, lung, trachea, endocrine, triple energizer, mouth, esophagus, cardia, duodenum, small intestine, cecum and appendix, large intestine, liver, pancreas and gall bladder, ureter, bladder, and eye. Of them, 24 (61.5%) were based on nomenclature of Nogier, including ear center, urethra, external genitals, finger, wrist, shoulder, heel, buttock and hip, sciatic nerve, sympathetic nerve, cervical vertebra, thoracic vertebra, neck, chest, lung, endocrine, esophagus, cardia, small intestine, large intestine, liver, pancreas and gall bladder, bladder, and eye. The remaining 15 (38.5%) were based on Chinese AAPs. The idea of naming an AAP by assigning an English abbreviation with a number was put forward by Oleson.

Among the 93 ISAAPs developed by WFAS,<sup>4</sup> 34 (36.6%) were based on the nomenclature and locations of Nogier, including rectum, urethra, external genitals, finger, wrist, shoulder, clavicle, heel, hip, sciatic nerve, sympathetic nerve, buttock, lumbosacral vertebrae, chest, thoracic vertebrae, neck, cervical vertebrae, adrenal gland, forehead, occiput, subcortex, esophagus, cardia, stomach, small intestine, large intestine, bladder, pancreas and gall bladder, liver, spleen, heart, lung, endocrine, and eye. Twenty-one (22.6%) were based on the anatomical terminology of the surface of the auricle, including ear center, anterior ear apex, ear apex, posterior ear apex, node, superior triangular fossa, middle triangular fossa, upper tragus, lower tragus, apex of tragus, anterior intertragicus, posterior intertragicus, apex of antitragus, central rim, angle of superior concha, center of superior concha, anterior ear lobe, upper ear root, root of ear vagus, lower ear root, and groove of posteromedial surface. The remaining 38 (40.8%) were based on Chinese AAPs, including: anus, helix 1, helix 2, helix 3, helix 4, Feng-windstream, elbow, toe, ankle, knee, abdomen, internal genitals, shenmen, pelvis, external ear, external nose, pharynx and larynx, in-

ternal nose, forehead, temple, brain stem, duodenum, appendix, kidney, ureter, trachea, Triple Energizer, tooth, tongue, jaw, internal ear, cheek, tonsil, heart of posteromedial surface of the ear, lung of posteromedial surface of the ear, spleen of posteromedial surface of the ear, liver of posteromedial surface of the ear, and kidney of posteromedial surface of the ear. These Chinese AAPs were closely combined with clinical practice. Of the 93 ISAAPs developed by WFAS, AAPs were extensively named with English abbreviations and numbers. Eighteen (19.4%) AAPs were named for the point rather than zone, including ear apex, Fengxi-windstream, shoulder, sympathetic nerve, external ear, apex of tragus, external nose, adrenal glands, anterior intertragicus, posterior intertragicus, apex of antitragus, central rim, brain stem, ureter, cheek, upper ear root, root of ear vagus, and lower ear root. The remaining 75 (80.6%) were based on the zone nomenclature system put forth by Oleson.

## DISCUSSION

By reviewing the literature available in Chinese, English, German, and French, it is clear that there was little international communication between eastern and western experts. Nevertheless, international communication has improved over the past 15 years because of governmental support and the requirements of the development of acupuncture. However, there are still difficulties in promoting ISAAPs.

The ISAAPs developed by WFAS in 2011 are a good standard for integration of ideas from China, the United States, France, and Germany. During the past years, when we discuss the method of developing ISAAPs, the same way of thinking as in developing body acupoints has been used, while the specialty of AAPs has been neglected.

Medicine is emphasized by integration of theory with practice. The features of the ISAAPs from the WFAS are as follows:

- (a) Normative: it was made according to the requirement of the International Standard Organization. There are not many experts in France, Germany, and the United States engaged in research on the standardization of AAPs. Most of the ideas are the opinions of several experts.
- (b) Comprehensive: it reflects the history of the development of AAPs, with the model of "part, zone, subzone, point", characterized by a combination of subzone and point, covering the whole auricle surface.
- (c) Compatible: based on the clinical practice and research on AAPs, especially the clinical research of the latter half of the 20th century, it integrates research from different countries.
- (d) Practicable: it is simple and conforms to the actual clinical situation of AAPs, making it easy to disseminate and apply.

(e) Authoritative: it is made and organized by WFAS and reviewed by many acupuncture-moxibustion experts throughout the world.

(f) Popular: it is adopted by various textbooks on Chinese medicine and acupuncture and is published in most countries and regions, including the UK, South Korea, and the United States.

Oleson used zones based on the anatomy of the surface of the auricle. The advantage of this is to name AAPs with English letters and numbers in zones. This system benefits from research and the international communication of AAPs. However, there is difficulty in disseminating this system for clinical application.

European drafts of AAPs were mainly written by experts from France, Germany, and Italy. The advantage of drafts from France and Italy was their full coverage of the surface of the auricle. However, there is no way to clearly label the points in the depressions on the surface of the auricle.

In the draft from Germany, the anatomical zones of the surface of the auricle were divided into subzones. The advantage of subdivision was full coverage of the surface of the auricle. However, the small subzones were difficult for clinical doctors to see clearly. While drafts from France, Germany, and Italy were appropriate for scientific research and international communication, they were not clinically practical.

Alimi, a member of the group for AAPs International Standardization Committee of WFAS, mentioned in his proposal, titled "Rationale for the doctor Michel Angels", ISAAPs, on May 18th, 2010, that they have more than 190 points. It is impossible to locate information in the zone-classification put forward by WFAS. Alimi said that the existing classifications currently did not allow to locate exactly all the points of modern scientific auricular cartography, which made it necessary to publish a universal nomenclature of auriculotherapy points." For example, the lobe was divided into 9 zones, however, there were 20 modern scientific auricular acupuncture points. This universal nomenclature he proposed was based on neuroembryological and neurophysiological data. This universal mapping was a bio-mathematical model of cerebral neuroanatomy whose pavilions were a hologram.

Another paper entitled "Proposition of Universal Nomenclature for the Human Auricular Acupuncture" also mentioned that the ear was a hologram of the brain, and that it was traced on the cerebral neuroanatomy. The brain presided over the mode of action. The whole managed by exact embryogenetics mechanisms, which organized the cerebral mass in spaced out segments from seven to ten degrees from an epicenter which was the center of the corpus callosum. The author calculated the ideal angle of the auriculogram by taking the conjunction of the helix and the lobe with the face as the base line, which passed through the corpus callosum. His epicenters were always aligned on a perfect

right which always passed by the corpus callosum. The model included a first abacus dividing outer ear into 189 areas on the lateral (outer) and a second abacus dividing the auricle into 89 areas on the medial (internal). The model made a segmentational process covering the entire auricular surface. He thought it could accommodate any auricular mapping, points were designated not by their anatomical supports but by Cartesian coordinates (x, y) corresponding to their exact loci. Although this nomenclature is based on neuroanatomy and neurophysiology, it can locate the 190 French points. It is more complicated when applied in clinical practice than the Chinese and American drafts of ISAAPs.

Another system,<sup>9</sup> which was officially presented in 1981 at the 1st Czechoslovak Congress of Acupuncture, was recently called a "sectogram" by the French. The sectogram was obtained by subdividing the auricle with semi-axis A, B, and C. A goes through the vertical intersection of the posterior edge of the raising branch of the helix with the lower branch of the anti-helix. B goes through the antitragus-antihelix notch. C is tangential to the posterior edge of the tragus. The resulting sectors A-B, A-C, and B-C were subdivided into 16 sectors for A-B and A-C and eight sectors for B-C. M. Romoli mentioned that "this subdivision was not aimed to produce sectors of equal angles", which were actually from eight to 11 degrees each, "but was rather intended to offer to the practitioner a graphic instrument which could be suitable for auricles of different shape and dimension". This method seems to give a clear location of AAPs. However, the auricle is a three-dimensional structure with depressions and protrusions. This system was not convenient for practitioners to use, and it did not have a clear theoretical basis. The Chinese standard of nomenclature and locations of AAPs was based on clinical application. It integrated Oleson's subdivision model, and respected the history of the development of auricular acupuncture. The advantage of this is in its clinical practicability and easy communication. However, there is a lack of specific research on AAP locations. Most AAPs were not constant in clinical experience so they require additional evidence.

The nomenclature and locations of AAPs published by WFAS were based on Oleson's subdivision model and the application of AAPs around the world. Therefore, it also respected the history of the development of AAPs. There were 34 AAPs (36.6%) of 93 from the auriculogram published in 1958 by Nogier.

In Nogier's "upside-down fetus" auriculogram, the locations of the lower and upper limbs in the motor system, skull, face and spinal vertebrae, and main *Zang-Fu* organs were the same as those of Chinese AAP standards. However, in the 1970s, Nogier published an auriculogram, in which the locations of heart and kidney were very different from those in the auric-

ulogram from 1958. In 1981, Nogier proposed Three Phases according to embryology. The pathological reaction or projection of different parts of the human body dynamically changes in the different phases of the auricle. This proposal confused clinical practitioners because different AAPs could be in one zone, and because one auricular acupuncture points could be in different zones.

Among the 93 AAPs in the WFAS Nomenclature and Location of AAPs, there were 21 (22.6%) based on the anatomical terminology of the auricular surface. The other 38 (40.8%) mainly referred to Chinese AAPs, and they were closely integrated with clinical practice. For the nomenclature of AAPs, 75 (80.6%) were extensively accepted with English letters and numbers, and the remaining 18 (19.4%) used point nomenclature because they were between zones.

The international AAPs that The Nomenclature and Location of AAPs did not include were listed using Chinese characters to respect the history of the development of AAPs.

The following points were proposed to promote ISAAPs. First, emphasize auricular anatomy, a wide audience, the principle of nomenclature, and a practical and accurate record.<sup>10</sup> Second, a common language should be used among international experts for AAPs. ISAAPs are the common language of international communication; they help beginners learn AAPs and teachers to teach AAPs. Third, common points should be emphasized. There are differences and similarities in the nomenclature and locations of AAPs. As a result, it is imperative to seek similar ideas and clarify differences to promote the development of ISAAPs. Fourth, the method for making standardized body acupoints in standardized auricular points should be used. Cooperation of auricular acupuncture experts is important in developing ISAAPs. Fifth, auricular zones should be unanimous. The clinical application of AAPs should be emphasized and the clinical and preclinical research on their specificities should be made with advanced scientific methods.

Finally, it is better to have a consensus that the triangular fossa can be divided into six zones, and that the cavum conchae can be divided into nine zones. This is because in the international standard published by WFAS, the lung zone was too large. Four tangents could be made to make the circle (heart) an inscribed circle, which can divide the cavum conchae into nine subzones. This way, international communication will be easier.

This study suggests that experts need to find common points among different countries and regions, provide evidence for different ideas, and include proposals for recommendation in standardization. ISAAPs, an occupational international standard published by WFAS, would standardize AAP research. They would act as a method of communication in the international aca-

demic dissemination of AAPs, promote fundamental and clinical research, and disseminate AAPs as an accepted therapy throughout the world.

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