

ASA Response: Call for Comments from the NIH NCCIH August 2019

<https://grants.nih.gov/grants/guide/notice-files/NOT-AT-19-030.html>

Request for Information (RFI): Important Considerations for Potential Creation of an Open-Access Repository or Database for Physiological and Anatomical Ontology of Acupoints

The impact the repository/database could have on the acupuncture or related peripheral stimulation research community

Any database that is established would optimally be as inclusive as possible, as reflected in its recognition and cataloging of the origins of the concept of the “acupuncture point.” A great deal of knowledge has already been amassed about acupuncture points, and preserving and organizing that knowledge must be a top priority. Acupuncture, without debate, originated in ancient China, and the vast majority of all evidence surrounding acupuncture and its derivations rests on the historic experience that has been transmitted and applied clinically over the millennia. Recent research interests, which are only now beginning to develop a sophistication that can adequately frame questions about acupuncture’s applications and effectiveness, largely rest on applications of points and point combinations that come from original, historic source texts. While there is a growing interest in framing acupuncture from the biomedical linguistic viewpoint, this risks separating acupuncture from its origins. Such efforts, by and large, only repeat the path to experience acquisition that took place in ancient China, wasting millennia of effort towards an identical goal. Trigger point acupuncture is a subset of “ashi point” acupuncture and dry needling is essentially an application of sinew channel theory. Discomfort with foreign concepts and a lack of familiarity with and proper education surrounding the classical understandings of acupuncture must not distract from historical wisdom. Efforts need to be made to consult experts in the field to assure this information is integrated into the library created.

Any database that is created should not culturally overwrite history, nor attempt to discredit or downplay the significance of classical Chinese sources. To do so would represent the worst in science, as it would be an act of discarding what we feel is “foreign” and choosing what we think is important based on what we are comfortable with rather than including all of the data available, even if we do not fully understand it. This database will have an authority that will come from its association with the NIH rather than solely due to the excellence of its content. Many will look to this as “the” source of information, so it would be a disservice to science and history to omit the core of the knowledge base that led to the idea for the creation of this database in the first place.

In short, it would be optimal to strive to make this database as inclusive as possible, to leave the greatest number and breadth of research concepts open, and to direct research toward the full richness of ancient and modern understandings. This database can either inspire further study and open the user to the full history of the concepts in question, or it can stunt thinking through narrow and ultimately arbitrary interpretations of what is “valid information.”

Appropriate standards/metrics for acupoint stimulations (e.g. needle size, stimulation frequency, amplitude, duration)

There is no right answer to this question, as the types of needles used and the type of stimulation applied (including frequency, amplitude, and duration) depends on the condition being treated and the patient at hand. There is inherent error in the idea that there is one right way to stimulate a point, as the art of the practice is oriented around the practitioner knowing how to properly stimulate a point for the clinical problem needing treatment. We can catalog needle techniques, which has already been done in multiple texts, and we can discuss understandings of how varying point stimulation leads to varying treatment results, but we to assert a “right way” for a specific point blunts the elegance of the medicine. The database would best avoid attempts to establish “appropriate standards” for point stimulation, but rather, over time, develop a research library that reflects the experience gained from different methods. The research library would ideally incorporate the nuance that acupuncture is being applied to individuals with extremely variable health statuses, and presenting with widely varying conditions. There is not a “one size fits all” right way to apply acupuncture.

As data is aggregated, it is critical to record all details of the treatment approach. This might include needle size, type, stimulation strategy, number of treatments, retention duration, auxiliary techniques (e.g. electric stimulation), and, very importantly, the conceptual framework around the treatment. Is the treatment being based on a strict, modern TCM approach, Five Elements approach, neuroanatomic, Japanese, Korean, or other system? All of this will help researchers to be able to compare results in a way that compares like treatments, rather than operating under the assumption that all treatments can be compared simply because they are acupuncture. In order to replicate a treatment strategy, significant information beyond which points are used must be recorded.

Appropriate anatomical references and anatomical regions for acupoints

All acupoints should be referenced as thoroughly as possible. This would include the classical nomenclature and measuring standards as well as modern knowledge of neuroanatomy and other underlying structures. Any point on the body can be an “acupoint.” There is no spot that can have a “zero” physiologic effect when acupuncture is performed upon it. Therefore, the points we are cataloging are based on classical understandings that will overlap with modern observations (e.g. motor points) for areas of the body that have functional significance. Again, references ideally include both ancient and modern standards of measurement and location.

Appropriate nomenclature standards for “acupoints”

Nomenclature will remain richest if it keeps reference to the greatest body of knowledge possible. Therefore, points that correspond to known classical acupuncture points should retain that nomenclature, including both a library of names for the point and the point numbers for ease of reference. (E.g., Stomach 36, Zu San Li, Leg Three Miles, approximately 1 finger breadth (cun) lateral to the tibial crest and three finger breadths inferior to the base of the knee cap, into the tibialis anterior muscle.) Classical point names often contain vital information about point function. The current point numbering system also maintains point context in relation to full classical understandings of the channel and organ systems. The database must preserve this information, while building on it with modern, anatomical understanding. Cataloging other systems for point reference, such as European systems, would also be valuable and would enrich the database. As an example of the breadth of information that might be included, see <http://www.itmonline.org/arts/zusanli.htm> and <https://tinyurl.com/y69svvws> [Zusanli Stomach 36 from P. Deadman, et. al.]

Value of acupoints for treatment of complex diseases and disorders

Historic understandings would be preserved, while modern available evidence is integrated. Points can be understood from both their classical associations and via segmental anatomy and somatotopic mapping. The application of acupuncture for the treatment of complex disease demands the identification of the pattern or patterns presenting. Points are then chosen, classically, to address the specific pattern at hand. How patterns are classified in historic acupuncture theory is different from modern disease classification. Acupuncture has been used for millennia for complex conditions, but how those conditions are identified and organized varies from modern understandings. These distinctions are critical to the study of acupuncture in its application to especially complex conditions.

Appropriate outcome measures (e.g. biochemical responses, physiological responses) for acupoints

Rather than “appropriate outcome measures,” the database would ideally grow organically with observed outcomes. There are many measures which might be used to characterize those outcomes. Individual points will have different effects depending on how they are combined with other points, and depending on what condition is being treated. The health status of the patient, needle technique (or other stimulation techniques) used, and even patient engagement will affect outcomes. A best-practices database would be flexible enough to reflect this complexity, in addition to recording biomedical measures. Further, if classical diagnostics and subsequent treatment approaches are applied (e.g. “clear heat”), it would be ideal that the database could capture that the acupuncture did address the classical pattern.

Other key data standards

It is unclear what information is being requested in this domain. Perhaps, one point that may be relevant here surrounds the increasingly accepted importance of the concept of “acupuncture dosing.” If the database could track dosing to outcome, that would be very valuable information.

Minimum data requirements for acupoints

All information as cataloged in major texts of Chinese medicine such as Deadman’s A Manual of Acupuncture, including classical text references. (For an example, again see <https://tinyurl.com/y69svvws> [Zusanli Stomach 36 from P. Deadman, et. al.])

All information available from related systems such as Japanese and Korean acupuncture.

All anatomic information available about the locus (muscles, nerves, blood supply, etc.)

Segmental anatomic knowledge about points – e.g. on which dermatome and/or myotome are they found, and how does stimulation of those dermatomes and myotomes affect underlying functions.

Importance of harmonizing standards with publication requirements

There are already standards created for acupoint nomenclature. A new system is neither needed nor helpful, but only will confuse the community. Use known nomenclature whenever possible.

Other types of transcutaneous peripheral stimulation paradigms that might be included (e.g. acupressure, laser, skin surface electrodes)

Every acupoint can be stimulated in a variety of ways. This should be a presumption. There are existing guidelines and standards for the application of auxiliary techniques to points and in general, and every point can be stimulated in a variety of ways.

Necessary analysis tools for the most value

Inclusive of patient feedback and correlation as to if the pattern being treated has been altered. I.e., tools for analysis need not consist only of chemical or radiologic indicators, but ultimately rest on whether the patient at hand’s condition has improved. Patient feedback questionnaires inclusive of the Chinese/Japanese/Korean/biomedical/other pattern being treated would be valuable.

Minimum size in terms of number and diversity of acupoints for maximum usefulness

At this stage, this data should be recorded by investigators for later meta-analysis. There is no specific answer to this question based on current understandings, and this would be a point of primary research. It is unclear what other information is being requested in this domain.

Desired key features and functionality from different perspectives including: users, data contributors, and/or research community

Easy searchability

Complete acupoint information including ancient and modern concepts

Ability to visualize all acupuncture channels and their relationship to the points

Ability to adapt new findings with any existing database that continues to include the context of historical nomenclature, and the meaning of this medicine across cultures.

Search by function (E.g. all points that are thought to “clear heat”)

Search by historic name (E.g. all points with the word “hun” in the classic name)

Search by point categories (e.g. “ghost points” or “Jing Well points”)

Search by anatomy (e.g. points associated with certain muscles)

Search by indication (e.g. points used to treat neck pain)

See Deadman’s online Manual of Acupuncture for a subset of the functionality. The NIH database ideally would include all of that and more.

Common combinations (e.g. SI3 is often combined with BL62 for spinal pain)