

## AOE Analysis of AANP's 2016 Membership Survey

A short survey was sent to the 2016 membership base of the American Association of Neuropathologists (AANP) to gain a better understanding of current neuropathology practice characteristics and future topics for the annual conference. A total of 129 members provided responses to the 20 questions within the survey and the summary of these results are described below.

The survey asked members to rate 15 different clinical assertion questions using a 5-point Likert-type scale from 1=Disagree Completely to 5=Agree Completely. These questions were developed to determine member's level of knowledge regarding four separate therapeutic topics in neuropathology.

**Figure 1** provides the results for the four questions evaluating knowledge in the area of viral infections of the CNS. The first three statements in figure 1 are false while statement four is true. While three out of the four statements had a mean response in the desired direction, educational need among members is documented by this data, and the statement with the mean on the incorrect side of the scale indicate where additional education is appropriate, this includes:

- West Nile Virus encephalitis is a very rare complication in patients with systemic infection. (False statement, mean of 3.08)

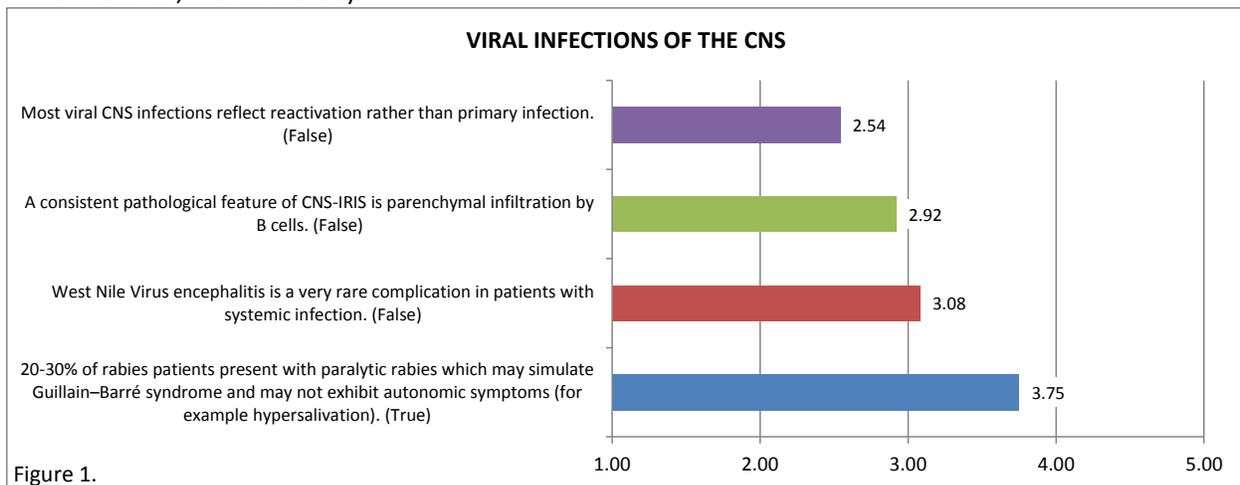
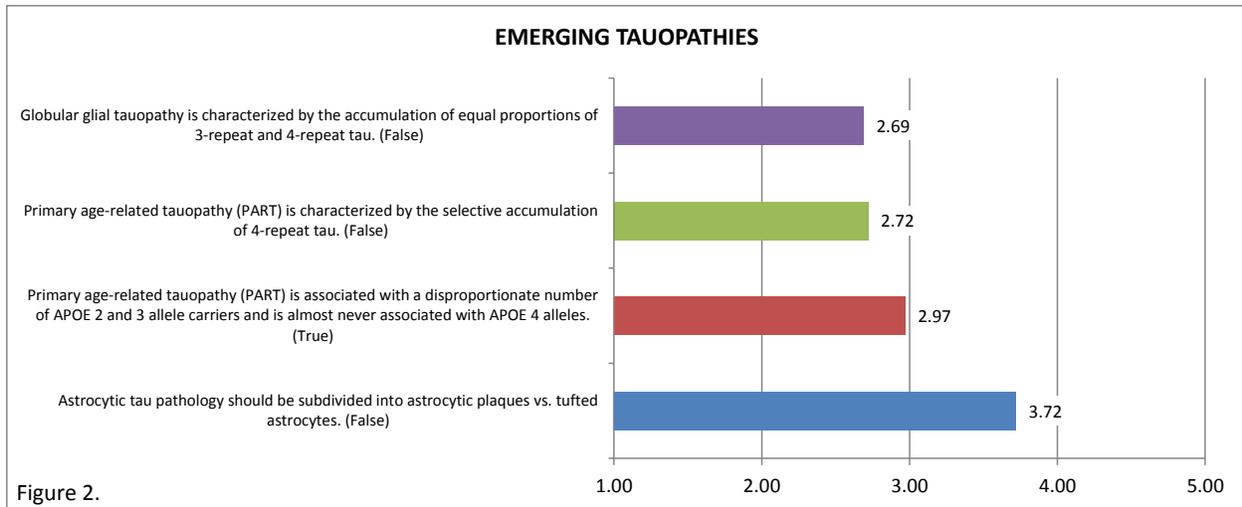


Figure 1.

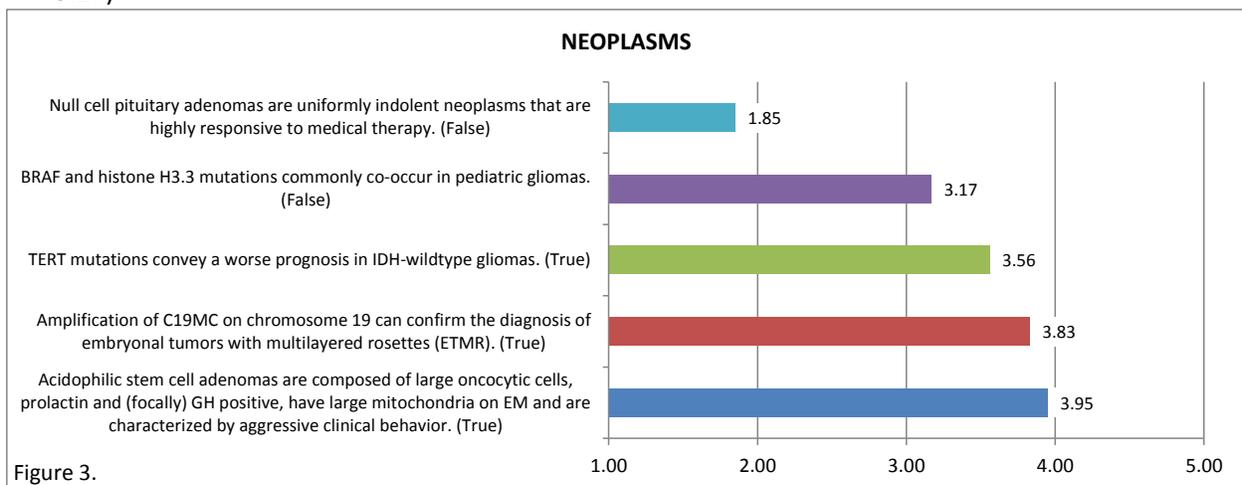
**Figure 2** provides the results for the four questions evaluating knowledge in the area of emerging tauopathies. The third statement in figure 2 is true while the other three statements are false. Only statements one and two had a mean score in the desired direction (disagree completely), and the statements with the mean score on the incorrect side of the scale indicate where additional education is appropriate, this includes:

- Primary age-related tauopathy (PART) is associated with a disproportionate number of APOE 2 and 3 allele carriers and is almost never associated with APOE 4 alleles. (True statement, mean of 2.97)
- Astrocytic tau pathology should be subdivided into astrocytic plaques vs. tufted astrocytes. (False statement, mean of 3.72)



**Figure 3** provides the results for the five questions evaluating knowledge in the area of neoplasms. The first two statements in figure 3 are false while statements three through five are true. All of the true statements (3-5) and the first false statement had a mean score in the desired direction, while statement two had a mean score in the opposite direction. This indicates where additional education is appropriate, including:

- BRAF and histone H3.3 mutations commonly co-occur in pediatric gliomas. (False statement, mean of 3.17)



**Figure 4** provides the results for the two questions evaluating knowledge in the area of developmental pediatric neuropathology. Statement one is false while statement two is true and statement one is the only statement that was answered in the desired direction. Statement two had a mean score in the opposite direction which may indicate where additional education is appropriate:

- Overall prevalence of cerebral palsy over the last 40 years has remained stable despite changes in antenatal and perinatal care. (True statement, mean score of 2.84)

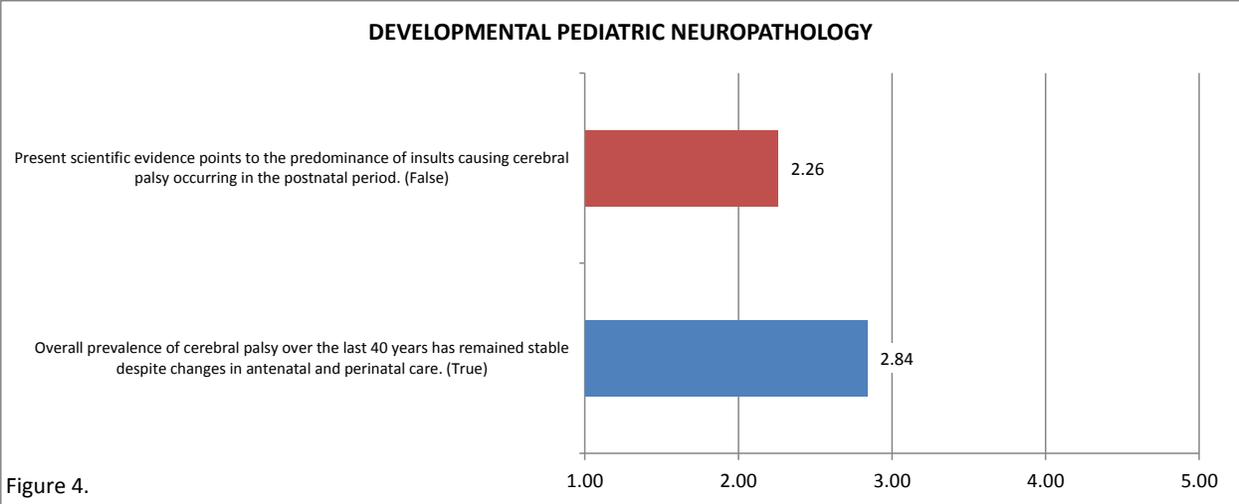


Figure 4.

Members were also asked a few questions related topics of interest for upcoming annual meetings. **Figures 5 and 6** show the results of including ethical issues in neurology practice and presentation format for presenting this topic. The majority of members indicated that they would like to discuss ethical issues in a panel discussion format.



Figure 5.

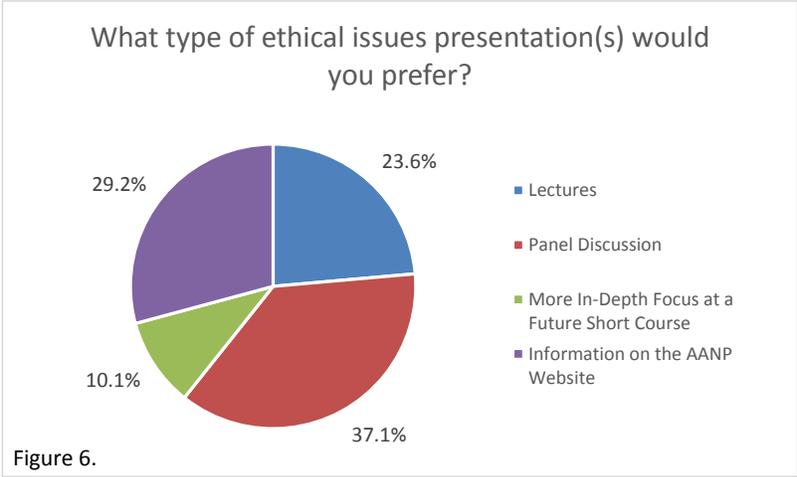


Figure 6.

Members were asked to provide free text responses to suggestions for possible discussants or presenters which included:

- Molecular brain tumor diagnosis
- Diagnostic dilemmas in pediatric embryonal tumors
- Peter C. Burger For CNS tumors, Marc Rosenblum Woodruff for PNS tumors, Goldblum for CNS malformations, and Petito for viral infections
- Would like more workshops, specifically PRACTICAL muscle biopsy and nerve biopsy workshop and electron microscopy didactic. Also Arie Perry's tumor update should be a recurring event!
- Molecular testing updates on CNS neoplasms that are commercially available and inform about patient prognosis and/or response to therapy.
- Topic: Physician directed death.
- Thomas Montine
- History of neuropathology -- from Alzheimer to Horbinski.
- Dr. Arie Perry and colleagues to extensively review changes in diagnostic criteria that are expected to appear in the new edition of the WHO CNS Blue Book
- Mitochondrial disorders Hannes Vogel

Members were also asked to provide specific topics related to their practice in areas of time management, teaching, research, training and certification. Responses included:

- Neuro-oncology
- AP content refresher for MOC testing - I am not concerned about the NP part of the recertification exam, but could use some "board review" prep for the AP part.
- Pediatric developmental pathology
- Molecular brain tumor diagnosis
- Research on glioma treatments
- Toxic / metabolic disorders
- I am retired. The fellows need lectures on congenital malformations of CNS and the genetics explosion.
- Prion disease
- Molecular pathology of primary brain tumors
- MOC certification
- As a practicing neuropathologist and a surgical pathologist I would like to see more (slides or web based) clinical cases and discussions. It seems the emphasis overall in all of the AANP meetings that I have attended is on research. Would like to see more presentations on practical aspects of the specialty.
- 1. Is there a "standard" way to sign out muscle and nerve? Should there be? 2. Electron microscopy (especially muscle and nerve)--how many people use it? How often and when to trigger? How many places actually have someone who still takes the images?--they seem to all be retiring! 3. Is there any standard neurodegenerative disease diagnosis/work up for the practical NON-ADRC funded everyday autopsy pathologist? Particularly when patient history is limited and budget for autopsy service is very limited. Some non-teaching hospitals have stopped doing autopsies altogether
- Grant writing would be very helpful especially since acquiring funding from the NIH is very difficult. Time management would definitely be helpful for faculty who do clinical practice, teach, do service work for a University and research. Another topic that helps academicians are topics on leadership skills.
- Pediatric abusive head trauma
- Neuropathology and genetics of autism
- Time management
- Molecular/Genetic test development and validation Integration of molecular/genetic testing into our practice

- Applying for non-NIH grants resources available to prepare for 10 year recertification test
- Best study material suggested for those needing to take the ABP MOC exam who have an NP certification but are in private practice where they do mostly general surgical pathology. What depth of knowledge will the modules expect me to know given that my practice is no longer neuro focused. Are there tutorials or books members would recommend who have perhaps contributed to the formulation of the ABP exam?
- Training in nerve and muscle
- How to launch a research career, given funding and time constraints.
- Post mortem seizure/epilepsy workup
- Effective time management tips
- Training trends in terms of fellowship numbers.
- Scheduling of NP Fellows, particularly: how much service work should be included in the second fellowship year.
- Muscle and nerve pathology
- Neuropathology education at medical student level - when and where taught in curriculum, breadth and depth of content, integration with other neuroscience curricular content, etc.
- New techniques to study brain pathology
- Forensics
- Balancing cost vs feasibility of molecular / genetic testing in brain tumors
- Time management and teaching.

The final question asked members to provide any additional comments, questions or concerns. A few comments included:

- I would point out to AANP and their program of CME. They run pediatrics in review monthly. Every year they issue questions and answers PREP self-assessment and they run grand rounds. I see them through my wife who is a pediatrician. I always looked up to AANP to do something like AAP.
- One of my major concerns these days is the future of the specialized neuropathologist in an era of continued belt tightening within academic institutions. Two specific relevant issues are: 1) the current coding scheme for surgical specimens (which rewards for simple high throughput cases but does not compensate for effort with challenging cases that are so common in NP); and 2) the current insufficient remuneration/RVU credit/budget afforded to brain autopsies in academic (and NIH-sponsored research) settings. I'm not sure how this general topic might be addressed, but the AANP seems like the only organization that might be in a position (and motivated) to lobby for changes on a national level, and I've never heard the AANP leadership/illuminati discuss these issues (beyond occasional words of concern). Thanks!
- Continue to have updates on dementia - diagnosis and cutting edge of therapy.
- We need to get on board developing and validating and justifying molecular/genetic (personalized healthcare) testing tailored to nervous system disease.
- Transparency in AANP decision making
- STRONGLY favor return to a single in-depth topic for the all-day course.

#### **Conclusion:**

Areas of need for additional education were revealed in the 2016 Membership Survey. These include education related to viral infections of the CNS, tauopathies, neoplasms and pediatric neuropathology. Additionally, only one statement was within one point of the desired answer. This indicates that members would benefit from education in all areas surveyed for 2016.