Topics in Central Auditory Processing

Volume 3 Number 6 **May 2019**

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Edited by: Dr. Kim Tillery, Ph.D. and Dr. Jack Katz, Ph.D.

CAN CHILDREN WITH AUDITORY PROCESSING DISORDERS RECEIVE SERVICES IN SCHOOLS?

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Many children we evaluate for auditory processing come to us because of learning problems in schools. Often, the learning problems are identified by the parents who are seeking to get school services for their children. Parents often believe that if they can get a diagnosis of an auditory processing disorder (APD) for their children the schools would be required to provide their children assistance through either an individual education plan (IEP) (https://sites.ed.gov/idea/) or an accommodations plan known as a 504 Plan. The parents then take the APD assessment report to the school, and the school team may identify that APD is **not** a recognized diagnosis for a child receiving special education and related services. Thus, an IEP is not provided. School professionals may also say that just because some clinical professional has diagnosed your child with APD the school is not obligated to provide accommodations for the child and the child will not be given a 504 Plan. Parents and professionals attending school team meetings often report such statements. Even after attempts to get the school to understand that APD problems can affect educational functioning, school districts may continue to refuse services and accommodations for the child. The most common argument used by schools may be that APD is not a recognized disability under the Individuals with Disabilities Education Act (IDEA), so an IEP is not going to be provided or that APD is not recognized under the Rehabilitation Act which has section 504 listed for accommodations for students in schools.

As professionals specializing in APD issues, we need to know what the law indicates so we can provide evidence to support why the child should be given services and accommodations. Additionally, we need to know what factors are critical to help the child obtain appropriate educational services.

How To Classify the Child with APD

One argument used by the schools in supporting their denial of services for children with an IEP is that the IDEA does not recognize APD as an educational disability. It is hopeful that after reading this article professionals will have the evidence for the school district to provide necessary APD services.

The IDEA identifies a number of different disability categories. One category is Hearing Impairment. We could argue that a child with normal hearing who has APD problems has a “hearing impairment” under the IDEA and, thus, is entitled to the IEP provided through IDEA regulations. Taking a look at the IDEA’s definition of a hearing impairment we see: “an impairment in hearing, whether permanent or fluctuating, that adversely affects a child’s educational performance but is not included under the definition of ‘deafness.’” (https://www.specialeducationguide.com/disability-profiles/hearing-impairments/). Thus, the definition of hearing impairment can include an auditory processing disorder. However, it has been this professional’s experiences that the fact that the child has normal hearing has denied the school districts, hearing officers who hear cases, and district courts not to support the designation of Hearing Impairment for children with APD even though one could easily identify that the IDEA defines hearing impairment without the use of a specific dB level of hearing loss.

However, there are two other possible diagnoses that can be used. One is to identify that a child with an APD has an “Other Health Impairment” or OHI. For example, children with attention deficits (such as ADHD) typically have clinical diagnoses of such disorder and are identified by schools as having OHI and meeting the criteria for an IEP or 504 Plan. Could the same be true for children with APD?

A review of the literature on court cases discusses educational cases in which parents have sued school districts for denying appropriate support (called a Free and Appropriate Public Education or FAPE) under IDEA when their children were diagnosed with APD. The courts found that an APD meets the IDEA requirements for special education support. For example, the United States 9th District Court of Appeals for the Ninth Circuit in 2014 ordered that the school district provide an IEP for a

child who had been denied such services by the Pajaro Valley Unified School District in Northern California.

The Court of Appeals determined that if a student is having educational problems, and the diagnosis is APD, then the student is eligible under IDEA for an IEP either as having an SLD or OHI. In the present case, they identified that the student met the criteria for OHI. In this specific case, the parents reported that two previous school districts in California in which the child attended school had provided the child with an IEP and special educational supports. In one school district, the school team identified that the APD problems contributed to an SLD while the second school district identified that the APD problems were OHI.

Murphy (n.d.) states that, "The California Office of Administrative Hearings for [Public School] Special Education has over 500 notices of fair hearings with the term Auditory Processing Disorder" in the title of the hearing. Thus, the argument for schools to provide special education services and support for children with APD is well documented, and in most cases the courts found in favor of the parents' arguments that the school districts did not provide the children with FAPE and appropriate educational support through an IEP or a 504 plan.

How does the IDEA support these children with APD in receiving services in schools? The above examples identified the designation of OHI or SLD as the appropriate "educational label" for children with APD. Thus, one needs to look at the IDEA's definitions of these factors. Looking at OHI, it merely states that 'Other Health Impairment' is essentially a clinical diagnosis that is not already identified in the IDEA. Thus, it is not a hearing impairment, deafness, blindness, visual impairment, or other medical problem. APD is "a clinically diagnosed problem". But what about the SLD designation?

This author has published on this topic (Lucker, 2012, 2015). When one investigates the IDEA (https://sites.ed.gov/idea/), one will see the definition of SLD is essentially the following (paraphrased here). A specific learning disability (SLD) is a disorder….affecting the understanding of language spoken….which can be due to a listening problem….that can be called a perceptual disorder. This happens to be the very first identified SLD in the law going back to the original PL 94 -142 Educational of All Handicapped Children's law, effective in the 1980s. Interpreting what is stated above, I hope all readers would agree that the best general definition of APD is a disorder in understanding spoken language (not due to hearing impairment or deafness) which affects a person's listening (not due to ADHD or some attention problem). Furthermore, if one looks at one of the ICD-10 diagnoses for APD it is H93/299: Abnormal Auditory Perception. Thus, APD has a clinical/ medical diagnosis of a disorder of perception.

Therefore, APD diagnosis have been accepted as educational deficits in the special education laws since the laws were first written (PL94-142) and remains the same definition today.

One Important Concern

In reviewing publications on APD and how APD is an educationally appropriate diagnosis, an important factor must be discussed. In the court case referenced above (United States 9th District Court of Appeals for the Ninth Circuit in 2014), one important factor was that the court indicated that children identified with APD were entitled to special educational supports (IEP) or accommodations (504) as long as the students have educational problems. This is a critical issue when it comes to helping children obtain special education services or accommodations through schools when you diagnose the child with APD.

Often, parents come to the audiologist with complaints and observations that their child is struggling in school work, displays poor test performance as well as weak development in skills (such as reading and spelling). I always ask the parents for evidence they have from school personnel regarding that the child is struggling to understand what is being taught, is not performing appropriately, and is not learning up to the expectations of the teachers and other school professionals. In some cases, parents have no such evidence, and when they go to school team meetings, it is the "parents against the school" and the schools usually win.

Looking back at the court case cited, the main factor identified is that the child must be identified as having learning problems, and it is the school district's responsibility to determine that the child is (a) having specific learning problems or (b) having difficulty appropriately accessing education (i.e., understanding lessons presented verbally since APD is a verbal based learning disability). Even if the parents present dozens of evaluations by non-school professionals, including the APD report, the school team does not need to accept or use that information unless they have agreed to do so (and not because the parents urge them to accept it). Additionally, even if a psychoeducational evaluation reveals cognitive/intellectual abilities that are very normal or even above average (i.e., above +1 standard deviation above the mean), but educational performance on standardized educational testing is deficient (even -2 standard deviations below the mean), unless there is evidence from school personnel, school evaluations, or school tests to prove that the child is not meeting school based expectations, all these outside tests (including the APD evaluation) are useless in getting a child an IEP or accommodations plan.

What Should Professionals Do?

The end result of this article should not be interpreted to mean that we should not provide APD evaluations and identify children with APD problems or provide educational recommendations appropriate to the child's needs in communication, speech and language, and daily life. *The focus of this article is to point out what factors are needed to assist children to receive education supports through an IEP or a 504 accommodations plan*. The main factor is to know that APD has been accepted in the courts as an educational disability when there is evidence that the child has educational problems identified by school personnel and when the only appropriate diagnosis is APD. The school districts can use the label of OHI or SLD depending on whether there are specific learning problems found (SLD) or if the child needs resource services, such as speech-language therapy in which case SLD or OHI may be used. When only accommodations are needed the OHI designation may be more appropriate because the student is identified needing modifications but not needing special education or related services such as speech-language therapy. This becomes important when we realize that the majority of the school day is spent in listening tasks. For example, Murphy (n.d.) states that 40 to 65% of the school day for children (overall) is spent in learning through listening. The demands for listening and comprehending what is spoken increase at each grade level.

In the end, it is our job as professionals to educate parents and schools regarding what is APD, how APD problems can affect children educationally, and what the education laws (Section 504 of the Rehabilitation Act and the IDEA) indicate regarding APD problems as learning disabilities. However, it is important that professionals working with children with APD inform parents of the need to have written evidence that their children are displaying educational problems. When there is no evidence of a specific learning problem, but there is evidence of the need for (a) repletion or slow delivery of verbal messages, (b) the presence of an individual aid to repeat the message and assist the child in understanding what has been said, then the child requires such accommodations provided and guaranteed through a 504 plan.

It is our responsibility to not only identify if the child has or does not have APD, and to identify the specific type(s) of APD present, but our responsibility is also to identify how the child's evidence-based learning difficulties or accessing education problems are directly related to APD difficulties. We must then include this information (focusing on the evidence-based information) to assist the parents in obtaining the appropriate services and accommodations for their children.

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Cortical and subcortical influences on cocktail party listening

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Do younger people hear better than older people when listening in noise ("cocktail party" listening)? Jain and colleagues (2019) asked this question by investigating the influence of subcortical auditory processing and cognitive measures on cocktail party listening in younger and older adults with normal hearing sensitivity.

Jain et al. recruited 92 adult participants consisting of 52 young adults (20–40 years) and 40 older adults (60–80 years). They assessed all participants on the Quick Speech Perception-in-Noise (QuickSiN) test, the auditory brainstem response (ABR) to a "da" stimulus, an auditory digit span test, an auditory digit sequencing test, and a spatial selective attention task.
The older adults performed significantly worse than the younger adults on all of the tests despite also having normal hearing sensitivity. For the younger participants, QuickSiN results were significantly correlated with auditory digit span and auditory digit sequencing test results and a measure of pitch processing in the ABR. For the older participants, QuickSiN results were significantly correlated with auditory digit sequencing test results and the same measure of pitch processing in the ABR.
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Overall, their results showed that despite having normal hearing sensitivity, older adults showed poorer performance in speech perception in noise that was related to age-related declines in both subcortical auditory processing and cognitive processing. In other words, older adults showed both poor bottom-up and top-down processing of sound.

Jain et al. concluded that subcortical auditory processing and cognitive processing play a role in cocktail party listening and both of these processes decline with age. These authors also reminded us that hearing thresholds on an audiogram are not good predictors of speech perception in noise. To be able to predict how a person might hear speech in noise, we need to know not only about their hearing abilities but also their auditory processing and cognitive abilities.

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Codes, Billing, and Reimbursement

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Knowledge of billing with appropriate codes is essential for reimbursement for your rendered professional services. The codes for APD evaluation and therapeutic services have changed over the years. While the below information is related to the United States, this author has been approached by colleagues in other countries who desire to initiate reimbursement processes in their country.

CPT & Diagnosis Codes

The diagnostic codes changed in the ICD-10-CM/PC Medical coding. Please refer to the reference for accurate APD diagnostic codes. There are several diagnostic codes depending on the client's situation. (The reference is provided at the end of the article). ICD-10 CM stands for The International Classification of Diseases, 10th Revision, Clinical Modification that houses all diagnostic codes. The acronym (CPT) represents 'Current Procedural Terminology'. CPT codes describe medical, including psychiatric, procedure codes performed by physicians and other qualified health care professionals. These codes are developed and maintained by the American Medical Association and are used by Centers for Medicare and Medicaid (CMS) for reimbursement to providers. All administered procedures must have the CPT code to bill for reimbursement.

The accurate CPT code(s) for an Auditory Processing evaluation are 92620 and 92621. These codes fall under the 'Designation of Time Codes'. There are only 5 audiology Designated of Time Codes: 92620, 92621, 92626, 92627 and 92640.

APD CPT Codes

92620: evaluation of central auditory function, with report; *initial 60 minutes*
92621: evaluation of central auditory function with report; *each additional 15 minutes*

Auditory Rehabilitation CPT Codes

92626: evaluation of auditory rehabilitation status; *first hour*
92627: evaluation of auditory rehabilitation status; *each additional 15 minutes*
92640: diagnostic analysis with programming of auditory brainstem implant, *per hour*

What Does the 15-minute Increments Truly Indicate?

Be careful with the use of the 15-minute increments (see 92621). A timed code is billed only if testing is at least 51% of the time designated in the code's descriptor. And this code is at risk for audits – so be careful!
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The descriptor indicates the code is for every 15 minutes, which is misleading. Do we perform exactly 15 minutes after the initial 60 minutes that falls under the 92620 evaluation code? More than likely – we do not. See the below information that provides the time spent in the evaluation for every unit. It does not mean that 15 minutes times 4 units = 60 minutes. Rather 4 units of the 92621 code indicates 53 minutes to 68 minutes! Note: there are only 1-6 units allowed to bill.

CPT Codes: 15 minutes for 92621
For CPT codes designated as 15 minutes, multiple coding represents minimum face-to-face time:
1 unit: 8 minutes to < 23 minutes
2 units: 23 minutes to < 38 minutes
3 units: 38 minutes to < 53 minutes
4 units: 53 minutes to < 68 minutes
5 units: 68 minutes to < 83 minutes
6 units: 83 minutes to < 98 minutes
Example:
92621 (1 unit) means the time spent after the 1st hour (92620) is 8 minutes to 22 minutes
92621 (2 units) means the time spent after the 1st hour (92620) is 23 minutes to 37 minutes

What About the Separate Codes for Individual CAP Tests?
ASHA recommends that 92620 is a battery of site-of lesion tests; therefore 92620 / 92621 should not be billed in combination with 92571, 92572, or 92576.
However, if for some reason only one test is provided then the separate codes for three CAP tests can be used if the test is given in isolation: 92571 Filtered Speech Test, 92572 SSW Test and 92576 Synthetic Sentence ID Test.

HISTORY of the CODES
In 2005 CMS approved the 2 new codes (92620, 92621) and after 2 years of ASHA advocacy, the codes were approved but undervalued by CMS. Clinicians advocated to include the other separate test codes. CMS denied such a request – as a 'test battery' is represented in the 92620 code. If a test battery is not given (i.e., SSW for site of lesion testing) and one of these tests are used separately, then one can bill with the separate code.
CMS reasoned that 92620 / 92621 captures the time spent on the evaluation and other tests of CAP function often used to determine the presence of APD and; 92620 / 92621 avoids suggestions that the 3 individual CAP tests are required as part of the test battery, thereby allowing the audiologist to determine the tests to be administered.

What Services Are Not Covered in the 92620 Code?
CMS stresses that activities such as counseling, establishment of interventional goals, or evaluating potential for remediation are not included as diagnostic tests, and that time spent on these activities should not be included in billing for the 5 time codes! The audiologist must bill these services separately to the client.

What are the codes for APD treatment?
The 92507 code stipulates for SLP Treatment of speech, language, voice, communication and/or auditory processing disorder; individual Includes training & modification of voice prosthetics. Medicare directs SLPs to use 92507 for auditory rehabilitation, also.
Will other insurance payers follow Medicare's lead regarding SLPs using 92507? The best advice is to check with each payer directly if you prefer to report 92507 code.
It is essential to know what the insurance party will reimburse for each service you provide. Be aware of increases in the reimbursements, and check the reimbursement schedule on an annual basis.

Payment Denial

In appealing a denial, it is important to provide the information and documentation that supports how this service addresses the patient's specific medical needs. Before agreeing to submit an appeal on your patient's behalf, please consider the importance of taking this step because it may be the patient's only opportunity to obtain coverage for this service.

Before drafting the appeal, you should follow the website process and consider the following:

1. Review the insurance company's denial to understand why coverage for this service was denied. If you do not understand it, then call the insurance company to get more information and request the criteria that were used in the denial.

2. Review the medical records to ensure there is supporting information and documentation for the treatment you are recommending.

3. Know that a medical insurance may deny the services as APD mau be considered an educational diagnosis and a medical insurance is not obligated to cover an educational diagnosis.

New Times Bring New Issues

High Deductible Insurance Plans: It is becoming more common that clients have a high deductible in their insurance coverage. Because the insurance will not kick in to pay for the services billed, until the high-deductible has been used by the client, it is becoming a regular practice by physicians and medical specialists to require payment at the time of the evaluation appointment.

Missed Appointment Policy: Do you require payment for the missed appointment? All physicians, psychologists, and other professional specialists have a policy that if an appointment is not cancelled 24 hours prior then payment of the scheduled time will be expected. Some also do not accept the client's presence at an appointment until the 'missed payment' is received!

The APD report time is covered in the 92620/92621 evaluation codes. Psychologists charge by their hourly evaluation fee for their written evaluation report that insurance payers will not cover. Perhaps it is time for speech-language pathologists to charge for the comprehensive language evaluation report that parents and school districts receive.

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When I Try Something Out

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When I try something out, and it works well, I like to try it out for 2 or more years. In this way, I'm confident that it will be helpful information and then can include any caveats. Of course, the down side of that is, then I forget to let colleagues know about it, in case they want to try it. Here is something that I may not have shared with the group.

Confusion of: ol / l, f / ɵ, m / n, i / j

When we work with people who have problems distinguishing two phonemes, the Phonemic Training Program (PTP) can usually address that. But, some confusions, e.g., associated with Early Recurrent Otitis Media (Katz, Zalewsky and Brenner, 2018) may be even too tough for PTP. So then we call out the Special Forces. There are two excellent methods that we use to resolve that problem, every time (well, maybe there was one time when it may not have completed the job).
[If Focus or Itch are 'old hat' to you; skip down to **Combining Forces**.]

Focus

The main and most direct technique is called Focus. Let's say when the person hears /l/ they often hear a little vowel before it, or occasionally after it (or just hear the vowel) or just the vowel. Common confusions are /o/, /ʊ/, /ə/ or even /ɪdl/. So we take two cards, one with each sound on it, and put them in front of the person. Then introduce the 2 cards/sounds and ask them to point directly on the one you say. Confusions are hard to improve because they are equally vague in the person's mind. That is, they sound similar and are about equally weak in the person's brain. We want to make the **easier** sound stronger and differentiate them, so we tell the person, "I am going to say the, '/ol/' (or /f/ /m/ or /i/ above), three times and then I will say the /l/. Please point each time". This should not be a hard task if the person understood, 3 times to /ol/ and then to /l/. So, they already had 3 repetitions of the easier sound. Next you instruct, "Good, now I'm always going to say the '/ol/' first, but I won't tell you how many times". I usually say the easier phoneme 1 to 4 times before giving the other sound. This reinforces the stronger /ol/ and they listen for something different, to know when to point to the /l/. I repeat the latter procedure 3 or 4 times, but not more. This is because if you do it too many times it can get confusing and likely regress.
If they point accurately and quickly you know they are going in the right direction. If they had errors or delays you may need to repeat the same procedure the next session. If they did fine and have significantly strengthened /ol/, for the following session, "Switch". Start with the /l/. Give the same instructions, but this time indicate /l/ will be repeated 3 times etc. When the person gets very good at pointing quickly and correctly, you are done with this contrast pair, unless you see the same problem come up again. In such cases, go back to /l/ 3 times and /ol/ once, or if necessary start all over again with /ol/. I work on just one or two pairs, for Focus, and occasionally try three. Too many pairs can clutter the brain and could be counter-productive.

Itch Cards

Another approach for resolving phonemic confusions is, Itch Cards. Itch cards are key-word cards for the two phonemes. You may need to make some cards to deal with /ol/, /ʊl/, /ʌl/, (e.g., old, bull, and ultra), and other sounds that are confused with /l/. What they do for the person is to give them a better/different handle on the sounds and provide linguistic and visual support. Say the phoneme and the person is to point to the card and say the word. The Itch cards may be e.g., 'food' and 'think'. Now they have key-words they know so they can associate one with each sound.

I believe actually putting one's finger on the card adds strength to the association (also for Focus). If you are just doing Itch, and not Focus, for this confusion, then repeat Itch a little more. Be unpredictable, so the person must continue to listen carefully (so they get the benefit of the therapy).

Combining Forces
For a few years I forgot about Itch cards, because I was getting such good results from Focus alone. Then Angela Loucks Alexander mentioned Itch on IGAPS and I remembered that I forgot Itch. Many thanks Angela.

Since then, I have made it easier for the listener to acquire the necessary skills to separate the 2 competitors, by using both techniques. First, I give Itch to make it easier to distinguish the sounds, and then follow it up with Focus. The Itch portion can be brief, if the person is doing well. It is just to remind the person of the association of the sound with the word and that makes it much easier to distinguish the sounds, even when presented without the words.

Please let me know if you have questions.

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