SSW REPORTS ...

From the E-Mailbag and
A Brighter Future for CAP

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Email: Hey the Buffalo Model Works
Susan Brandner

I went to an IEP meeting (Individual Educational Plan) the other day to help interpret a CAP report that was done at a neighboring hospital. The main reason that I agreed to go is that the audiologist did use the SSW (and the SCAN -- that was her battery). Fortunately she gave the Combined Totals with the child's score and the norms so it was easy for me to decipher.

The audiologist's summary stated that the child had "a mild auditory processing problem" -- I want to pop some people on the head. The child had significant peaks in both competing conditions, so with no other information, but with an appropriate disclaimer, I described children who have TFM and DEC problems for the committee.

Jack, I wish you could have seen the look on the teacher's face, she said that I had just described this child perfectly and now she feels badly about some of the things she did or didn't do over the past year. Other members of the team, especially the psychologist, said that they had never had such detail before. I assured them that they would continue to get detail. The Speech Therapist (who knew of my interest in CAP) was just delighted that she had asked me to be at the meeting.

Susan

Ed note: When people say how do know that the system works, it is experiences like this that continue to give me assurance. Knowing the CAP test battery results we can then describe the person's academic and other problems pretty well without ever seeing the individual.

On-line from 'Healthy Hearing'

Jennifer's Q: A fair amount of research is available on CAPD in children. Where can I find more information about CAPD in adults, specifically on phonologic dyslexia?

Ackie's A: Yes, you are quite correct that there is much less available about CAPD in adults. This makes sense. For one thing the problems that children face are generally more severe than when they reach adulthood. Children have to go to school and learn what the curriculum dictates and generally in the manner that the teacher chooses to teach. Children also have to learn to speak and develop language, which can be extremely difficult when carrying a major CAP burden. On the other hand as we get older our central nervous systems continue to mature (though they may never reach the level of those who do not have the problem). We also have freedom to choose the type of work we will do and find ways to minimize our difficulties and maximize our strengths etc. This is not to say that we have overcome the problems -- surely not. But the demand on us is generally lessened.

I am not clear if you are looking for diagnostic or rehabilitative information. "Phonological Dyslexia" (if I understand your term correctly) is made up of 2 aspects. This is the same for a child or an adult.

On the SSW test there is a Phonemic Decoding category of CAPD that has to do with quickly and accurately processing speech at the phonemic (speech sound) level. There is also an Integration Category that is often associated with Dyslexia. This generally has to do with sharing information between the right and left sides of the brain. If the person has both the Phonemic difficulties and Integration (especially auditory-visual integration) it is classified as INT-1) whether it is a child or adult. If the therapy materials are not appropriate for adults, generally they can be adapted for adult use. Quite often those with these 2 problems have other auditory difficulties (e.g., INT-3) which also should be addressed.

A book called the 'Brain Gym' is an excellent source for addressing the Integration problems (www.braingym.com) and there are many books and computer programs that address phonemic DEC. The Masters et al. book, 'Central Auditory Processing Disorders: Mostly Management' (Allyn & Bacon) has several chapters that will be of interest to you. See chapters 4 thru 9, Jane Baran's chapter which is specifically on management of CAPD in Adolescents and Adults.

Rookie Needs Help

Dear Ackie,
I am just getting started in CAP work and feel that I need some help with this case. I saw a 9-yr-old boy for an evaluation. Here are his condition scores 5 11 13 6.
(s)Pretty Green

Dear Ms. Green,

Ordinarily I would never offer an opinion given so little background information and so little data. But until you provide me with more information, let me give you my tentative ideas.

For fun, I put what you gave me thru the *SSW-Plus* program. As you could see from the norms you have, the child was outside of normal limits for each condition. In fact he had 35 errors for the total NOE score when 10 was the normal limit. The mean Total NOE for 9-year-olds is 6.1 and the SD is 3.9. 35 - 6.1= 28.9/3.9 = 7.4. That tells us that this child is 7 SDs poorer than the mean!!! I presume that English is his first language, he is not mentally retarded and has no history of brain damage, not a crack-baby etc. Am I wrong? From the numbers you gave me this kid has a MAJOR CAPD and needs lots of help. It looks like he has Decoding problems and Tolerance Fading Memory difficulties.

Where am I getting all of this? From your SSW Tester's Manual (with CTB-CD) p22 Table 6. RC & LNC were sig = DEC & LC = TFM. Okay, now go over to the next table and look at DEC and TFM to see what these problems are and to what they relate in the child's life. It' s as easy as that.

1) You asked me what you can do to analyze the SSW without contacting Ackie each time. Now that you have a sense of how to use the info, read or reread the material in the manual and you will see much, much more information.
2) Subscribe to *SSW Reports* ($15 for 2 yrs). Send check for $15.00 ("SSW News") to Nancy Stecker, University at Buffalo, 122 Cary Hall, Buffalo, NY 14214. Please send a personal check (subscriptions must be pre-paid).
3) You could attend an SSW Workshop. We are working on one or two at the

moment (but they probably won't be open as they are run by school systems). But if you would like to host one, I'll be happy to send you information on setting one up. *[Jack's website, when it is set up, will have this and other informaton.]*

4) You could read Katz, 1992 (see p 26 for the reference in the SSW manual). A recent Handbook of Clinical Audiology will provide further info about the SSW test in one chapter and about the CAP battery in another chapter.
5) If you will be at AAA this year, we will have a Round Table on the SSW and an SSW Study Group meeting on the afternoon before the convention.

I believe E. that you will have no difficulty in getting the basics out of the SSW next time. But there is MUCH more. Had you sent me the 8 cardinal numbers there was surely more info in Ear or Order Effects. If there were reversals that would have told us a lot more, but Qualifiers are also very helpful. You can read up on them in the manual see pp 4, 5, 16, 17 for this and other useful info.

The SSW is an invaluable tool and worth the effort to learn it. Of course an SSW workshop and/or SSW-Plus make the task much easier. Let me know more info the next time you test an interesting patient like this one.

Ackie

Kimberly Jenkins

Dear Ackie,
Or is it Dr. Ackie as more and more audiologist have gotten doctoral degrees?
I attended Jack's course at AAA. He mentioned the test battery that he uses on a routine basis. In what special cases do you (Dear Ackie) tend to run ABR, or the P-300? Also, all our facility has at this time is the Central Auditory Test Battery-CD. If a patient needs further testing, I assume that I need to refer them elsewhere correct?

Thanks for you time!

Hello Kimberly,

I'm glad you contacted me because I'm a lot better at answering questions like this than Jack is. ABR is a measure of the VIII N and auditory brainstem. So you would use it when there is a question about that part of the auditory system.

When would you question the status of the retrocochlear system? Rarely in 'garden variety' CAP kids because they rarely have symptoms that call this region into question. If there was a question of neural asynchrony - a pretty severe condition (not garden variety CAP kids) then ABR would be very important (and then compared to OAEs). Also to prove to a school that the problem is physiologic one might need OAE, ABR ...

Jack has had cases with normal hearing and depressed WRS (usually in one ear). He has done ABRs in these cases and found lengthened conduction times for waves III to V.

Neither Jack nor I have used P-300s with CAP cases. If there was a need to show a difference in brain function (e.g., for research purposes) before and after therapy it would be appropriate. We believe that in general evoked potential tests are less sensitive than behavioral tests so it is not as likely to be used to determine if there is a problem. There are exceptions (e.g., foreign language speakers for whom there is no appropriate behavioral test material).

If you don't do many CAP tests you may wish to refer out. Otherwise for a small investment you could get other CAP tests that you feel would help in those cases.

Starting to Look at BTB Qualifiers
Jack Katz, Melody Bricault, Gary Bricault, Susan Brandner, and Debbie Welling

What is a BTB Qualifier? A Back-to-Back Qualifier is when the person says the same word twice in a row, e.g., *up stairs stairs town* or *up stairs down down*. Unlike the Available Word (AW) in which a word is also repeated (e.g., up stairs up town), the BTB generally does not make sense. In addition, a BTB word can be substituted for any other word in the item, whereas the Available Word is only substituted for the competing word of the other spondee.

The BTB was originally seen in mentally retarded (MR) individuals during a study in the 1960s and then forgotten. In recent years when we worked with the MR population, we began to see this pattern again and associated it with Decoding problems (although not checked out empirically). Melody began to notice this pattern in some of her CAP kids. Then others started noticing this too. This was not the case for the other two special Qualifiers, the Intrusive Word (IW) or the Smush-2 (Sm-2). At this writing it appears that these latter Qualifiers are almost always seen in the MR population and not in the LD/CAPD groups.

Recently we decided to take a new look at BTB to see if we could learn more about this SSW Qualifier. Several audiologists were asked to take a look at their recent cases to see if they had any of the 3 exotic Qualifiers. IW and Sm-2 were not found, but 7 cases had BTB responses.

Table 1 shows the results for each of the 7 children that had a BTB response. It should be noted that one child had 3 BTBs, another had 2 BTBs and the other 5 had one a piece.

What was so surprising Melody pointed out is that each of her 4 cases that had BTB responses had one on item 24! Why on #24??? What is so special about #24?

Tester	Item #s	Signif CAP Categories
MB	24	not available
MB	24	D, T,O
MB	24	D, T,O
MB	10, 24	D, T,O
JK	1, 14, 24	D,T
SB	24	D, T
DW	24	D

Table 1. Results for the first 7 children who had BTB Qualifiers.

Item #24 is *nite light yard stick*. The most common BTB response the children made was *night yard yard stick*.

According to Rudmin & Katz (1982) #24 is one of the 40 items of list EC that has almost identical onsets for the 2 competing words. *Light* starts only 16 ms before *yard*. So that is one factor that may make #24 more difficult. But why was it a BTB and not some other type of error? We don't know but, we may surmise a phonemic explanation.

The /l/ is arguably the most difficult sound to perceive. So when L-sound in *light* competes with the Y-sound in *yard* it likely loses out. On the other end of the words, the /d/ continues after the /t/, so *light* most likely is disrupted on that end as well.

We know that those who are poor Decoders tend to perseverate by choosing a word from a different item. In this cases out of the degraded sounds they get *yard* and a feeling that there is something else. Perhaps this is why they choose to say *yard* again BTB.

One child responded *nite nite ---- stick*. Again *light* was lost but this time *yard* was

also incorrect. In this case due to the competition we presume that both of the competing words were lost but perseveration stepped in to make a better response, so *nite* was repeated. Again this seems like poor Decoding, primarily.

We do not know if the TFM and/or ORG aspects also contributed to the BTB, but it does seem that the original thought that this is mainly a result of DEC is correct.

We would like to solicit data from other audiologists who find BTB errors. If you find one or more please email me at <jackkatz@buffalo.edu>.

CAPD - Difficult Past Brighter Future
Jack Katz

Central Auditory Processing has had a most remarkable history. Where are we today?

'Auditory Perception' (as it was called) was a small but rapidly growing field back in the late '60s & early '70s until a sarcastic article by Norma Reese (1975) came out poking fun at and demeaning this work. From that time until the important work of Paula Tallal (starting in 1980), it was a free-fall for CAP.

Speech-language pathologists were the first to jump ship goaded on by Reese and her followers (as part of the *Chomsky revolution* which is no longer in vogue). Then many audiologists followed. Open classrooms were in their heyday and phonics was thrown out with gusto and ridicule, so the situation became bleak for those of us who knew the importance of CAPD.

By the late 1980s when the failures of open classrooms became apparent and in the early 1990s when reading scores fell sharply because of the absence of phonics in the curriculum. Some speech-language pathologists began to question the authorities and gradually started to work once more to remediate the CAPD (often under cover or embarrassed about this as CAPD was still being ridiculed and demeaned by the academics).

Other SLPs were concerned about the listening problems of children but because CAP was "so off base" (if a true phenomenon at all), there had to be another approach. The growth of Phonological Awareness has been rapid and beneficial (of course I see this as one aspect of CAPD-- phonemic decoding). But the Phoneme was magically resurrected and no longer an unimportant footnote.

With the shortage of health care dollars, insurance companies have cut reimbursement for CAP services to the bone. So even more audiologists have had to cut back on CAP testing or have cut it out entirely.

Interestingly, psychologists did not seem put off by CAP and with the vacuum left by our profession I have seen some psychologists move in to fill the gap. How could we object when fewer and fewer audiologist were doing the needed work.

On top of all this in 2000 we were faced with a major controversy within our profession. Jerger & Musiek called into question the validity behavioral CAP testing but had no data to indicate a widespread problem.

The Tide is Turning

After this long history of struggle and despite the pressures and problems we face there seems to be a brighter future ahead. Do read on.

There has been steady increase in interest in CAP (regardless what it is called) and there

is more and more awareness and pressure from parents and teachers to get help for their children. The website and parent network that Jay Lucker put together (National Coalition on Auditory Processing Disorders try: *www.NCAPD.org*), has had an important effect. What we have not been able to do in the past 25 years, the parents have done for us. The recent expansion of Audiology Online to include a consumer's website "Healthy Hearing" can only heighten the realization of the public and professionals about CAP and brighten the prospects that audiologists will be able to afford to provide these services once again.

The September 2002 issue of Child magazine has an article (Becky Betcha) that shows the changing view of CAPD. Such an article would have been unheard of in prior years (log onto www.child.com). The article is titled "The New ADD". They say that APD "is the latest hot diagnosis" for those who "hear perfectly but listen poorly" (p. 37).

Unlike most articles for public consumption, this one was factually accurate and seemed to tap the thinking of many audiologists in the field, in the labs and even a physician. The physician referred to our diagnoses as a "messy area" but did point out the need for a team approach (so he didn't ignore CAPD).

By the way, I still hear about "messy, confusing" when people refer to CAPD. I hope that I am not the only one who finds it quite clear, understandable, predictable and most beneficial (perhaps I am asking the choir and not the congregation). But now the parent education that you have provided and the excellent services that you give make this area of audiology more and more viable

As you may know I now reside in Kansas. My colleague tells me that the SLPs in the schools are eager to learn about CAP because it was not part of their university curricula. Although there is too little CAP testing going on and the SLPs are not sure what to do for it, it looks like there is a felt need to get into this work.

Action

It seems to me that this is the time to redouble our efforts to make CAP a strong, valuable and valued service.

- Intensify your efforts at public education (copy out the article in Child, or write your own piece, or get Gary Pillow's educational video on CAP from the Educational Audiology Association (800-460-7EAA).
- Work to improve CAP reimbursements. Ask parents to demand support from insurance carriers and make calls and complain about the meager pay for such beneficial services. CAPD is no less a health problem than vision and hearing are.
- We need more research on CAPD. We know how important it is but others need to see the proof. You can help!!!
- I would like to help but I am a novice when it comes to reimbursements. If you can educate me and provide the phone numbers etc. I will be happy to contact Medicare, Medicaid or whoever and let them know what we do and it's value.

References

B Becha (2002) Child
J Jerger & F Musiek (October 2000) JAAA
N Reese (1975) JSHD
P Tallal et al, (1980) J Applied Psycholing

Many thanks to Deanna Marasciulo who has been a most able Business Manager for the past 2 years and welcome to Sarah Hynes who is taking her place.