

# WHAT IS AUDITORY PERCEPTION?

Auditory perception refers to how the brain interprets what we hear. This may include speech sounds as well as environmental sounds.

Auditory perception fits under the broad umbrella of **CENTRAL AUDITORY PROCESSING SKILLS (CAP)**

**This refers to:** The analysis of sound that enters in the brain. **Central Auditory Processing Deficits (CAPD)** refers to limitations in the ongoing transmission, analysis, organization, transformation, elaboration, storage, retrieval and use of information contained in audible signals (Dorothy Kelly, 1995).

Central Auditory processing is a part of our everyday life. The brains ability to take in auditory input, to then process and interpret this enabling us to respond appropriately is vital for everyday functioning.

The auditory pathway is like a “blocked straw”. Information enters into the pathway but cannot travel past the 8<sup>th</sup> auditory nerve through the brainstem into the brain.

# WHAT ARE THE MANIFESTATIONS OF CAPD IN THE CLASSROOM?

- Difficulty hearing in background noise
- Difficulty following oral instructions
- Poor listening skills
- Poor auditory association skills  
(hears sounds incorrectly)
- Easily distracted
- Poor Auditory memory
- Poor problem solving skills
- Often asks for things to be repeated
- Fidgety and restless

# CHECKLIST OF BEHAVIOURS SUGGESTIVE OF CAPD

1. Difficulty hearing in background noise
2. Difficulty following oral instructions.
3. Poor listening skills.
4. Academic difficulties- poor reading, spelling & writing skills. Difficulty acquiring phonological awareness skills.
5. Poor auditory association skills.
6. Difficulty with multi-modal tasks: e.g. dictation- visual and auditory integration.
7. Distracted/ inattentive.
8. Poor language skills.
9. Poor memory.
10. Poor problem solving skills.
11. Often asks for things to be repeated.
12. Misunderstands intent rather than content of communication-misinterprets messages.
13. Difficulty comprehending sarcasm or subtle changes in intonation.
14. Is fidgety and restless.

CENTRAL AUDITORY PROCESSING

AUDITORY PERCEPTION

PHONOLOGICAL AWARENESS

AUDITORY MEMORY

The speech and language therapists focus on developing children's ability to recognise and make sense of what they perceive. Speech sounds are primarily focussed on.

The fundamental area of auditory perception that speech and language therapists develop is that of **PHONOLOGICAL AWARENESS**.

### **What is P.A?**

This refers to the child's awareness of the sounds that letters make as well as the sounds that they hear in words. The following skills are taught:

**Discrimination:** The ability to identify the beginning, middle and end sounds in words. Also includes the ability to distinguish between subtle differences between sounds in words, such as "*pat*" vs "*bat*". /p/ is voiceless whilst /b/ is voiced.

If a child cannot discriminate this difference, then both words will be perceived and processed as being the "same" word.

**Synthesis:** This is the ability to blend sounds together to create words. Such as "*c-a-t =cat*"

**Analysis:** This refers to the ability to break up words into their individual sound components. Such as "*cat*" is "*c-a-t*".

**Rhyming:** This skill includes both discrimination and production.

**Discrimination:** The ability to perceive words that sound the same and those that do not. *“cat, dog, mat- Which words sound the same?”*

**Production:** *“Give me a word that rhymes with dog?”*

**Therapy focuses on early intervention (Grades 0-3)**

**Why teach children Phonological Awareness skills?**

In order for children to learn to read and write, they must gain an understanding of the speech-print connection.

A child who is aware of the units of speech in spoken words, will not become confused when you discuss the sounds that the letters stand for in printed words.

Children who have developed P.A will be able to apply their growing knowledge of letter-sound relationships to invent spellings and to recognize words.

## WHAT SKILLS DID WE USE TO “DECODE” THESE WORDS

**Discrimination-** perceiving the sounds in these words.

**Analysis-**breaking up each word into its individual sound components

**Synthesis-**joining these sounds to “create” the word in order to determine whether you have spelled this unfamiliar word correctly.

## WHEN DEVELOPING EARLY PHONOLOGICAL AWARENESS SKILLS

Please be careful!! When we speak about teaching letter-sound correspondence we are NOT referring to the NAMES of letters- Hence teaching a young child that *cat* is spelled *C-A-T* is fruitless and this does not hone into the child’s auditory perceptual skills. This will confuse the child even further because *cat* does not sound like C-A-T.

Instead we begin by teaching the child the beginning, middle and end SOUNDS in short words. This then allows them to develop their auditory perceptual skills as well as teaching them word attack skills-when provided with unfamiliar words.

## WHY EARLY INTERVENTION?

Past grade 3 the child learns to rely more heavily on their visual memory than their auditory memory.

Sight words have been consolidated and the child no longer needs to analyse each word phonetically in order to read.

Instead reading becomes more of a visual than an auditory-based approach.

However, a child who does not have consolidated auditory perceptual skills will never be able to spell unfamiliar words even if they have a sound visual memory.

Research has proven that PA is a powerful predictor of reading and writing abilities. Children who have developed PA will be able to apply their knowledge of letter-sound relationships to invent spellings and recognize words.

PA is a powerful predictor of reading and writing abilities. Children with well developed PA tend to be better readers at the end of primary grades than those whose skills have not been developed.

PA can be developed easily through classroom-based activities, these activities have a significantly positive effect on the development of reading and writing, especially when combined with direct instruction regarding the sound-symbol relationships.

For children at risk for literacy acquisition, the following activities will help to make them aware of the speech-print connection.

**RHYME:**

Detection

Production

## **AUDITORY DISCRIMINATION:**

Voiced versus voiceless words (minimal pairs) – pat vs bat; tip/dip

The meaning of the word changes depending on which phoneme you use. (2 different words, with a subtle difference)

Initial sound identification-the ability to determine whether 2 words begin with the same sound-  
pot/pan?

**AUDITORY SYNTHESIS:** The ability to join/blend sounds to form words. Beginning with putting units together at a syllable level, teach child that long words can be broken up into smaller constituents-early stages of phonetic reading or spelling.

**AUDITORY ANALYSIS:** The ability to break up words into their individual sound constituents.

This also follows a hierarchy-

Clapping out syllables in multisyllabic and bisyllabic words

e.g. “*butterfly= but-ter-fly*” or “*postbox=post-box*”

Identifying the sounds in words:

Short words: “*cat= c-a-t*”

Words with consonant blends: “*plan = p-l-a-n*”

“*Vest= v-e-s-t*”

# AUDITORY CLOSURE WHAT IS THIS:

This is an auditory related skill that is an integral component of auditory perception.

Auditory closure refers to skills we use when we have not heard part of a message.

The brain then still needs to interpret this message. This is the ability to use ones auditory skills to “fill in the gaps”-bridge what one has heard in order to determine what one has not heard and to respond appropriately.

Think about being in a noisy environment (restaurant, concert, CLASSROOM!!) and trying to have a conversation. Try and think back to a time when you may have “misheard” or “misunderstood” someone. You may have missed out on an aspect of a conversation or a question, but are able to use what you did hear to “piece” together the “missing” parts of the message. Your brain is using auditory closure techniques to do this. Such as is evident from the following examples, please

*“Please pass the ..... and pepper” (Salt)*

*“Close the ... behind you” (door)*

*“Please take this letter to the post....(fice)”*

# AUDITORY MEMORY WHY DO WE NEED THIS?

- The ability to retain information presented via an auditory channel.
- This is very important skill that helps a child to follow instructions within the classroom as well as to develop literacy skills.
- We need to retain the sounds we hear in words in order to perceive and process these.
- Furthermore, we need to be able to retain auditory information in order to be able to function effectively within the classroom.
- Many children present with auditory memory problems that affect their ability to “process” language.
- This is not necessarily due to language processing problems but rather due to a limited ability to recall what one has heard.
- In such situations the learner may “forget” to carry out part of an instruction and may appear as if he/she has not been “listening”.

Please think back to the children in your class.

Many of these learners may have poor auditory memory skills and/or language processing problems. Please ensure that you do the following:

- Provide clear and concise instructions to your class at all times.
- Repeat these often.
- Try to ensure that verbal information is accompanied by visual aids (such as worksheets accompanied by verbal instructions).