

AUDITORY PROCESSING DISORDER (APD)

Previously known as Obscure Auditory Dysfunction (OAD)

The information in this leaflet is largely derived from UK research on APD in Adults



Produced by MRC Institute of Hearing Research

AUDITORY PROCESSING DISORDER (APD)

Auditory Processing Disorder is a relatively recently recognised condition (first noted in the USA in the mid 1960's) that we do not understand a lot about. We have designed this booklet to answer as many of your questions as possible, as honestly as we can. Until recently in the UK, this condition was more commonly referred to as Obscure Auditory Dysfunction (OAD).

What is Auditory Processing Disorder?

Most of us hear well and so don't give much thought to how we hear. Hearing starts with a very complex set of actions within the outer, middle and inner ear. These actions allow our brain to understand the sounds. For example, it tells us the whistling we hear is a bird singing. This is what we call listening. The medical or scientific term for it is Auditory Processing.

When people's ears are working well but they cannot understand the sound they hear, they may have an 'auditory processing disorder' (abbreviated to 'APD').



Do you have normal results on standard tests of hearing but have difficulty understanding speech in noisy surroundings?

About 1 in 20 patients attending an ENT/Audiology clinic for problems with their ears or hearing turn out to have normal results on standard hearing tests and no identifiable ear problem. Most of these patients report having difficulties understanding speech in **noisy** places. This puzzling combination of symptoms and results is termed APD – Auditory Processing Disorder.

People with APD are often interested to learn how many others share their problem. They report finding it reassuring to know others have similar experiences.

- One third of people with APD have difficulty understanding speech, particularly in the presence of other speech or in group conversations
- Two thirds have difficulty understanding speech in all kinds of background noise
- One quarter also consider their hearing in one ear is 'worse' than in the other

Most people report some difficulty in these situations, but people with APD feel that they experience these difficulties more than others. The descriptions that people with APD give of their problems are very similar to the descriptions given by people with measurable hearing impairment. Specialised testing is therefore needed to find the basis for the particular problems of each person with APD.

Who has APD?

There appears to be no one 'type' of person susceptible to APD. People with APD come from a wide variety of social and educational backgrounds. A large number of them work or undertake activities where communication is very important, e.g. in classrooms, at meetings. More women than men seek medical advice about APD.

There have been no systematic studies to check the prevalence of APD but it has been estimated that somewhere between 5-10% of adults overall have it. However, it is probable that it is more prevalent in the elderly population. It is possible that more than 20% of the elderly population may have APD.

Why do people seek advice about their hearing difficulties and when do they do this?

Why:

- **About one third of people are worried that their hearing ability is deteriorating**
- **A quarter are simply 'fed up' with not being able to hear well**
- **One fifth are persuaded into seeking medical advice by a relative or friend**

When:

- During an appointment with a doctor, arranged specifically to discuss the hearing difficulty
- Following a visit to the doctor 'to have wax removed' after which there was not much improvement
- During a visit to a doctor about a different problem, some people mention they have hearing difficulties

The amount of concern experienced by people with APD varies greatly. Some are generally aware of it as a nuisance and little more, whilst others experience intense embarrassment at not being able to hear properly; this can lead to a restriction in their social activities.

How do they test for APD?

Anyone suspected of having APD will initially have a conventional hearing test to check that their ears are working well, they will also have a series of further tests for APD.

Different professionals use different ways of checking for APD. The following are examples of the sort of methods that may be used:

- **APD Interview:** The audiologist or person assessing you at the clinic may ask several questions about your health, and hearing problems
- **APD Questionnaire:** You may be asked to complete a short questionnaire on your experience of hearing difficulties
- **APD listening Tests:** These tests usually involve wearing headphones and listening to specific sounds and responding as requested e.g. you might be asked to listen to some words spoken with noise in the background and asked to repeat back what you heard

What causes APD?

We still do not understand exactly what causes APD. It is possible that APD can run in families. Parents of children with APD often report they have difficulties listening and hearing which may have started when they were young.

Some people who have had APD from infancy may have subtle differences in the way that brain cells (called 'neurons') are joined together, or send messages to each other. This may make it hard for sounds to be passed on to the areas of the brain which help them understand language. It is possible such brain cell differences may cause APD.

APD may also be caused by long term middle ear disease ('glue ear'), limited access to communication, strokes or, in rare cases, injuries to the head.

Audiological research suggests there are 3 main problems associated with APD in adults.

1. **Problems with attention and/or language**
Some people with APD have reduced ability to focus attention or have genuine difficulty in separating the words spoken by one person from those spoken by another person at the same time, for example, at a party or in a pub. In effect, the words they want to hear get jumbled up with those they don't want to hear. This reduced ability can sometimes be linked with childhood reading difficulties or other language problems.
2. **Reduced auditory capacity**
Hearing for faint sounds, as measured by a conventional hearing test, may be normal. But some people with APD have a minor impairment in the inner ear. This can make one sound more likely to be masked by other sounds occurring at the same time. These difficulties occur because the inner ear has not separated out the different sound frequencies. In such cases, sounds are heard but appear muffled.
3. **Low confidence in hearing**
A lack of confidence can lead people to underestimate their true hearing ability. The majority of people with APD do underestimate their hearing ability. The lack of confidence may be linked with a recent traumatic experience or a generally stressful period such as bereavement or divorce. Alternatively, it may be long-standing and relate to social communication generally. People who had hearing problems in the past as a child or young person may still sense a problem even though there is now no actual measurable hearing impairment.

Nearly all people with APD fall into at least one of the above three categories, and many into more than one. From our knowledge on this condition so far, it would appear there is no single explanation for the cause of APD.

Is there a cure for APD?

No. Unfortunately there are no drugs or procedures which 'cure' this condition. There are things that can be done to help improve listening (listed in the next section) and we are hopeful that other useful treatments will be available in the future.

Quite often people report a sense of relief for knowing why they are struggling to hear, and that there is nothing wrong with them that will suddenly get worse.

What can be done to help me if I have APD?

Although there is no 'cure' for APD, there are things that you, the hearing clinic, your place of employment or education, and your family and friends can do to help.

- Many people are helped by learning about ways to improve understanding in difficult listening situations (See the section on Useful Hearing Tactics in this booklet)
- Hearing training programmes and listening devices are available from some, but not all, hearing clinics
- You can help others to have a better understanding of your difficulties
 - Give your line manager/teacher/lecturer a copy of this leaflet. It may be possible to improve the listening environment
 - Encourage your relatives/friends to read this leaflet

Useful hearing tactics

Hearing and speech form only one part of communication. Gesture and facial expressions also help with communication. To some extent, everyone uses special coping methods, called hearing tactics, to help them understand conversation when listening conditions are difficult.

The more difficulty a person experiences when relying just on hearing, the more help can be gained from using hearing tactics.

- Cut out or turn down interfering noise where possible
- Ensure enough light is on the face of the speaker to help make the most of visual cues from speech/lip reading and facial expressions
- Tell the speaker the circumstances are making it difficult for you to hear. Give suggestions on how they may help: such as, ask them to ...
 - Speak more clearly
 - Move away from in front of the window or lamp (if light is behind the person speaking, it makes it very difficult to see the person's face clearly)
 - Move to a quieter area

These and many more hearing tactics can be found in the leaflet 'Tactics for Good Hearing'. A copy can be obtained from your local audiology department or from Deafness Research UK [http:// www.deafnessresearch.org.uk](http://www.deafnessresearch.org.uk)

What does the future hold for people with APD?

There is no research evidence to suggest that people with APD go on to develop severe hearing disorders. However, it is possible that about one third of all those with APD will, in later life, have what audiologists call a measurable 'mild' hearing impairment. If a mild hearing impairment does develop, a hearing aid may be worth trying.

Some people with APD report in interview that the effect of their hearing disability on their everyday life appears to have diminished over time.

What research is being done in the UK?

Research on APD is being undertaken in many countries, including here in the UK. The results of these studies may help us to understand the disorder and provide better help for children and adults identified with APD.

Where can I get more information about APD?

Websites

<http://www.thebsa.org.uk> (Special interest Groups/Auditory Processing Disorder - UK Research and clinical information)

<http://www.apduk.org/> (aimed at UK public)

<http://www.ihr.mrc.ac.uk> (aimed at research community and UK Public)

<http://www.deafnessresearch.org.uk> (aimed at UK public and research community)

<http://www.nidcd.nih.gov/health/voice/auditory.asp> (aimed at American public)

<http://www.asha.org/public/hearing/disorders/understand-apd-child.htm> (aimed at both research and public in America)

<http://www.ncapd.org> (aimed at parents and children with APD worldwide, and includes involvement from professionals working in APD worldwide)

Books

Several appropriate books are suggested on the APDUK website. Information on where to purchase them is also provided. APDUK also produces a Newsletter for its readership.

BACK COVER



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