



For you and your child with hearing loss

Learn how to
develop your
child's listening
and spoken
language skills



What is AVT?

AVT is a specialised early intervention program aimed at giving children with hearing loss the best conditions for developing their listening and spoken language skills.

AVT is for your child with hearing loss and well as for you as a parent. The AVT program gives you the tools necessary to maximise your child's listening and spoken language development. The goal is to make the techniques and strategies you learn in AVT part of your everyday life. In this way you can provide your child with the best conditions for developing an age-appropriate spoken language before entering school.

More about AVT

AVT (Auditory Verbal Therapy) originated in the United States but has changed throughout the years in step with advances in hearing technology and increased knowledge about how the brain develops. AV practitioners work based on 10 principles that, among other things, focus on parent involvement, development of listening skills, and individual goals for the child. The AVT program is an Evidence-Based Practice and is recommended by both the Danish Health Authorities and the National Board of Social Services because it has a documented effect both internationally and in Denmark.

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↑ "We were very happy after the first AVT session. We left feeling reassured that we were going to be all right."

Ditte Sørensen,
mother of Sirius,
age 6 months.

Why is AVT important?

Research has shown that not only do children with hearing loss need early identification and intervention in the form of state-of-the-art and high-quality fitted hearing technology, but they also need specialised programs such as AVT in order to develop their full language potential. Participating in a high-quality, specialised AVT program, in close co-operation with the audiological clinic, is therefore crucial for your child's development in several areas such as hearing, listening, speech, language, cognition, and reading all of which contribute to your child reaching his or her highest potential.

AVT focuses on developing the auditory areas of the brain that have been under-stimulated due to the hearing loss. The plasticity of the brain is most susceptible in the first years of a child's life and especially the first three and a half years are critical when it comes to development of the auditory cortex. Therefore, it is vital to get started as early as possible with both hearing technology and AVT.

The plasticity of the brain

The plasticity of the brain means that the brain can restructure itself. If the auditory cortex – those areas of the brain that intercept and convert sound – is not enough stimulated, the visual cortex may take over. That is, the areas of the brain that should process auditory input are instead used to process visual input. If the brain has restructured itself this way, the child will not be able to understand and use spoken language at the same level as his or her peers with normal hearing.



What does the three-year AVT program consist of?

The three-year long AVT program is publicly funded in order to ensure the best possible outcomes for children with hearing loss. This means the AVT program is free of charge for families living in Denmark. This information booklet describes the program and attempts to

answer some of the questions you might have when your child has been diagnosed with hearing loss and you have been offered to participate in the three-year long AVT program at one of the AVT centres.

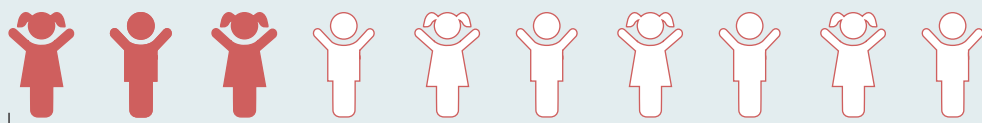
Studies show that most children who have been enrolled in a three-year AVT program develop age-appropriate spoken language

The Decibel AVT Research Project (2013-2016) showed that eight out of every ten children who were participating in the project for three years achieved age-appropriate spoken language skills before they entered school.

Previous Danish research has shown that only three in every ten children who had received Danish standard treatment achieved the same result. *Please see references to Danish and international research on AVT at decibel.dk/avt.*



Children having participated in a three-year AVT program



Children having received standard rehabilitation



↑ “The AVT program has given Carolina the maturity and confidence to be able to deal with her disability in school and in other arenas. She is aware of her listening environment and has learnt to speak up if the conditions are not the best possible. The program has made us, her parents, more aware of Carolina’s opportunities and abilities, and it has helped us in being able to focus our efforts both at home and in school.” Marta Barnils Vila, mother of eight-year-old Carolina.

Carolina and her parents participated in Decibels AVT Research Project.

Who can participate in the three-year AVT program?

The AVT program is nationwide for children with hearing loss being treated with hearing technology from age 0 to and including age 5. Please see the website decibel.dk/avt for a more detailed description of which children can be included in the AVT program.

What if my child does not meet the inclusion criteria?

If your child does not meet the inclusion criteria of the three-year AVT program, he or she will be offered standard treatment at your primary audiological clinic and from a municipal speech and language consultant. Children and young people up to 18 years of age who use a cochlear implant can participate in a one-year AVT program at the audiological clinics at Aarhus University Hospital and at Rigshospitalet.



When can we begin AVT?

You can begin AVT when your child has received its first hearing technology and has access to auditory stimulation. Hearing technology can be either cochlear implants (CI), hearing aids (HA), bone-anchored hearing aids (bahs), or brainstem implant (ABI).

Where are the AVT sessions carried out?

The three-year AVT program is carried out at one of the three AVT centres in Denmark. The centres are located at the audiological clinics at Aarhus University Hospital, Odense University Hospital, and at Rigshospitalet. Here you will find a highly specialised professional setting with speech and language pathologists trained in AVT.

If your child is already frequenting another audiological clinic, the primary treatment will continue there (hearing tests, adaptation of hearing aids, casting of moulds, etc.), but the actual AVT sessions will be carried out at one of the AVT centres.



Does AVT always have the intended effect?

By far the largest portion of children with hearing loss gain a lot from AVT – including children with additional challenges – but in rare cases, AVT does not have the intended effect. There may be different reasons such as:

- That anatomy or presence of a syndrome means that the child does not have sufficient auditory access with the available hearing technology.
- Presence of other severe challenges that make it difficult for the child to learn and use any auditory input.

If this is the case, you will be referred to other treatment options.



↑ "Sara has Treacher Collins syndrome which has resulted in several challenges for her in addition to the hearing loss. In the first year she was constantly admitted to the hospital and that meant a set back in her development. So it was wonderful that a professional was there to guide us in Sara's development of listening and spoken language. We did not feel that we as parents could handle this on our own without any prior experience. It felt good to attend AVT sessions, and the fact that Sara was able to start early also had a really good influence."

Sabine Endersen, Sara's mother.

Is AVT also for multilingual families?

AVT is also for families in which one or both parents' mother tongue is not spoken Danish.

Your AV practitioner will guide you in how you can support your child's listening and spoken language development based on your own mother tongue. If you do not speak and understand spoken Danish or

English, an interpreter can participate in the AVT sessions with you and your child. If you are deaf and use sign language, it is important that a hearing person who is with your child on a day-to-day basis participates in the AVT sessions. This is to ensure the continuous use in everyday life of the AVT techniques and strategies learned in the sessions.



How is the AVT program structured?

The program lasts for three years and consists of:

- Guiding and coaching by AVT educated speech and language pathologists (AV practitioners) at one of the three AVT centres in either Aarhus, Odense or Gentofte / Copenhagen.
- Individual one-hour AVT sessions based on your child's development and needs. The session alternates between language learning through play and conversation about the session goals and take home messages that help you transfer what you learned during the session to your everyday activities. The frequency of AVT sessions will be tailored to your family – it varies from about once every

two weeks during the first year to every or every other month depending on your child's development.

- Practicing AVT in your everyday life at home; both during playtime and during routine activities. In this way your child will develop his or her listening and spoken language skills continuously and not only during the AVT sessions.
- Annual formal language testing so the AV practitioner can keep tabs on your child's development and set new goals.
- Short-term and long-term goals as a guideline for your work at home. Please share the goals with your local speech and language consultant at your municipality and your childminder, contact member of nursery staff or primary teacher if your child attends daycare or school.



← "You get so proud and filled with drive when your AV practitioner tells you that he is doing well and has come a long way in a short period of time. I'm chuffed to get goals to work on at home. Then we know what we will be working towards and how far along we are in the process. We also share the goals with his day-care provider after each session so that she knows that at the moment we are working on e.g. verbs."

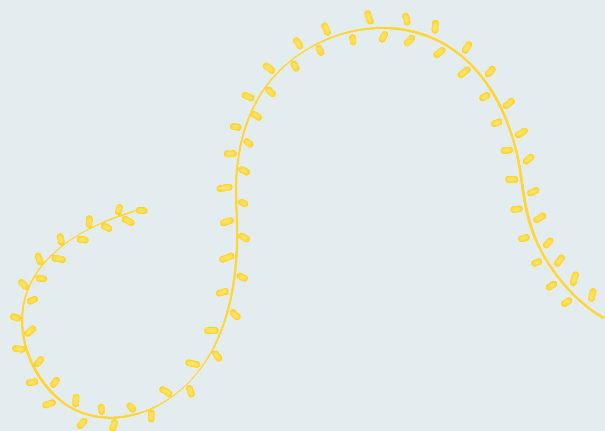
Søren Holm Aabenhus, father of two-year-old William.

What does it require from me as a parent to participate in AVT?

AVT without parent involvement does not exist. You are the most important person in your child's life and therefore the primary facilitator in supporting your child's development of an age-appropriate spoken language. The job of the AV practitioner

is to guide you in that process. You don't need any prerequisites or special skills to be able to participate in AVT, but you are expected to be available and motivated. Neither is it necessary to acquire any specific types of toys or other tools in order to practice AVT at home. The AV practitioner will guide you in how to use everyday routines as well as tools or toys which are already available to you.





Examples of
auditory and verbal
techniques and
strategies:

What can I learn from AVT?

AVT focuses on involving you as a parent and guiding you in how to best support your child's development of listening and spoken language. AVT is always based on age-appropriate and motivating activities where you facilitate language development through playing and interacting with your child.

During the three years of the program you will learn to use auditory and verbal strategies and techniques together with your child. The AV practitioner guides you in using the strategies and techniques with your child in your everyday routines and activities.

The examples vary
according to different
stages of development

Example 1 Auditory first

- When you are about to go out, ask your child to put on his/her shoes before he/she sees them.
- Plan ahead out loud together with your child before finding the ingredients for making e.g. cupcakes.

Example 2 Model language

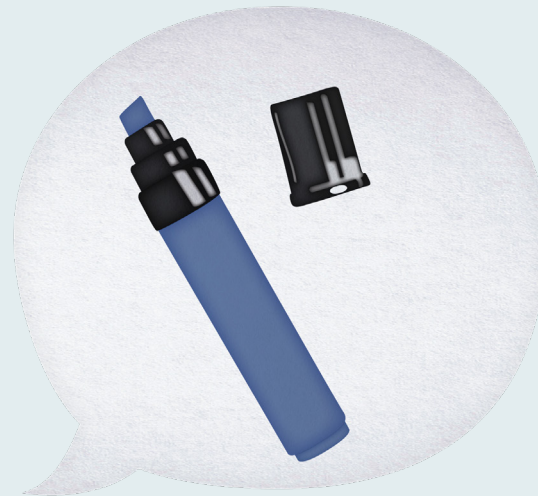
- Your child is expected to use his or her voice to ask for more water at the dinner table. Everyone around the table models that by asking for "more" using their voice before they get water.
- If your child has an argument with another child, he or she might find it difficult to stand his/her ground. You might suggest to your child to use his/her voice, e.g. by saying: "if you would like your toy back, then say: 'it's mine.'" Await the child's response.



Example 3

Acoustic highlighting

- When your young child is learning to listen, emphasise your own voice using a lively and interesting “sing song” voice to make the sound extra clear for your child.
- Your child might find it difficult to produce the s sound in words, e.g. “sun” and say “I drew a un.” You then highlight the s by extending the sound and let the child listen to you repeating the entire sentence again, saying: “Yes, I see that you drew a ssssun.”



Example 4

Put everything into words

- Describe on an on-going basis what you yourself are doing and what your child is doing as well.
- Let small problems arise and put into words what happens and what you might do about this (e.g. make it difficult to take the cap off the pen and then find alternative solutions to continue drawing together).



→“It is time consuming, but also wonderful to follow Lærke’s progress. During the last year she has expanded her vocabulary enormously. Lærke has also become more brave and willing to stand up and talk. In difficult situations it is also clear that she now finds it easier to put her feelings into words.”
Ditte Waldbjørn, mother of five-year-old Lærke.

Ditte Waldbjørn,
mor til Lærke på 5 år



Examples of other techniques and strategies that help build language and communication

Example 1 Go sound exploring

- Explore different rooms of the home with your child and find things that make a sound. There are many to choose from, e.g. the cooker hood, the faucet, the washing machine and the doorbell. When you are close to the object that you have selected, stop and say "listen!" to prepare your child for the sound. Then e.g. switch on the faucet, point to your ear and say "I hear the water running." Use your voice to mimic the sound of the water.



Example 2 Building vocabulary understanding of the surrounding world and of spoken language

- **Describe objects, animals or individuals**
Describe e.g. an animal with phrases such as "it lives on a farm", "it gives us milk", and (the easiest last) "it has four legs and says moo". Let your child guess what you are thinking of.

Example 3 Building vocabulary Understanding of the surrounding world, Understanding of spoken language, Communication, Theory of mind and Literacy

- **Conversational Reading**
When you read aloud, your child will hear many repetitions of language structures. This contributes to strengthening the auditory memory. When you read, your child will also get the opportunity to answer questions, predict or guess what is going to happen in the story. Reading aloud gives your child the opportunity to link sound with a word or an image on a page. Talk about the things you experience when you are reading a picture book together. Books expand vocabulary and facilitate conversation. You could e.g. talk about social rules of interaction. 'Why do the people in the book do what they do and what can they be thinking?'. 'What could the people in the book have done instead?'



Example 4 Auditory memory Spoken language understanding

- **Activities**
Tell the child which items you need for taking a bath. You might say: "We need shampoo, soap and a towel". Go fetch the things together while letting your child remember all the items.

Co-operation across the board

The AVT program is part of a collective effort for your child, so close co-ordination and co-operation between all professionals around your child is very important. Please feel free to invite other professionals, e.g. your child's speech and language consultant, daycare worker, your municipality case-worker, or your family members to an AVT session, so that they can see what you are working on and how important it is.

While being part of the AVT program, you and your child are in contact with a local speech and language consultant from the local authorities. This contact should be established as soon as suspicion arises about your child's hearing loss and continue until your child turns 18 years. Dialogue and an effective co-operation between you as a parent, your AV practitioner and your local speech and language consultant is recommended to ensure that, among other things:

- The local speech and language consultant receives long-term goals for your child approximately every six months.
- Your child's institution gets relevant information from your local speech and language consultant.
- There is no overlap in the testing of your child.



↑ "Sirius' substitute grandma, Dorthe, usually comes along to AVT. She is a great help with all the practical stuff and it's nice that she takes notes during the session, so we can discuss the take home messages driving home in the car."

Ditte Sørensen, mother of Sirius, aged 6 months.

Financial aid

According to the Danish Social Services Act and the Danish Health Act, you can apply for financial aid from your local authorities or your region, if your participation in the AVT program results in a loss of income or you have transport expenses when going to the AVT centre. The three AVT centres all have information material that can be enclosed with your application. It is the obligation of the local authorities to inform you about the options available to you, as well as assessing whether you and your child meet the criteria for services under the Danish Social Services Act. Please ask your caseworker at the municipality for more information.

Compensation for loss of income

The AVT sessions are carried out in daytime during the week so it may be necessary for some parents to take time off from work in order to participate. Compensation for loss of income (in Danish: Kompensation for tabt arbejdsfortjeneste or TAF) is an example of financial aid that may be awarded in those cases according to the Danish Social Services Act, section 42.

Transport

If the distance to the AVT centre is more than 50 km from your place of residence, your transport costs will be covered pursuant to the Danish Health Act, section 171. It varies whether you have to apply directly to the region or via the hospital. Please ask at the AVT centre for more information.

If you have less than 50 km of transport you can apply to your local authorities to have your and your child's transport costs covered as part of your additional expenses (in Danish: Merudgifter) according to the Danish Social Services Act, section 41.



What can I do leading up to the first AVT session?

If you and your child are awaiting the AVT sessions to begin, maybe because your child has not yet received his or her first hearing technology, the wait may feel long. However, there is a lot that you can do already:

- Build a strong relationship between you and your child. Don't let the hearing loss influence how you talk and sing to your child.
- Recognize and react to all your child's attempts at communication, e.g. facial expressions, smiles and eye contact. The child learns turn-taking and that all attempts of communication are of value.
- Be open about the child's hearing loss and involve family and friends. They may turn out to be an invaluable support for the entire family.

← While Christoffer and Julian, aged 7 months, waited to enter the AVT program, they attended a music class for babies where they were able to strengthen Julian's auditory attention while having fun at the same time!

- Turn to other families who have been in the same situation as you. It is comforting to know that you are not alone. The AVT centres and organizations for children with hearing loss can help you establish contact to other families.
- Practice some of the auditory techniques and strategies you find in this booklet. It will become easier with time and then you will already have some experience when you enter the AVT program.
- Contact your caseworker and speech and language consultant from the local authorities (often with PPR; in Danish Pædagogisk Psykologisk Rådgivning). Write down all your questions and concerns to make it easier to remember the things you want to discuss when you meet. You could also write down any time spent and expenses that you may have had in connection with visits to the audiological clinic and/or other places in connection with your child's hearing loss. These records might be useful later if you apply for financial aid from the local authorities or the region.

Please find more advice and information on the first steps in your child's hearing journey at decibel.dk

The experiences of other families with AVT

Do you want to know a bit more about what it is actually like to participate in AVT and what you will gain from AVT as a family?

Decibel - The National Organization for Children and Young People with Hearing Loss can pair you up with a family that is or has been in an AVT program. We call them AVT Buddies.

Read more about AVT Buddies and sign up at decibel.dk/avt.

Learn more about AVT

At decibel.dk/avt you can read more about the three-year AVT program. You can also find videos with examples of an AVT session as well as interviews with both an AV practitioner and parents sharing their experiences with an AVT program.



↑ Dalia Kigiel-Slor and her son are some of the AVT Buddies that you may meet.

Contact information

The three-year AVT program is offered at the following audiological clinics:

Aarhus University Hospital

Audiologisk Klinik
Peter Sabroes Gade 6
Bygning 14 F
8000 Aarhus C

+45 78 46 31 09

Odense University Hospital

Hørelinikken
Kløvervænget 19
Entrance 85 3rd floor
5000 Odense C

+45 65 41 25 36
ouh.aud@rsyd.dk

Rigshospitalet

Center for hørelse og balance
Afdelingen for
øre-næse-halskirurgi og audiologi
Inge Lehmanns vej 8
Opgang 8, 3. og 4. sal
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decibel.dk/avt



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