

Developmental Verbal Dyspraxia

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With thanks to: Veronica Connery Dip. CST; M Sc; MRCSLT , Specialist Speech and Language Therapist, Nuffield Hearing and Speech Centre

Children with developmental verbal dyspraxia have difficulty in making and co-ordinating the precise movements required for the production of clear speech, and yet there is no evidence of damage to nerves or muscles. They have difficulty in producing individual speech sounds and in sequencing sounds together in words. As a result their speech is often unintelligible even to family members.

The speech disorder is the predominant presentation, but children with developmental verbal dyspraxia may also have oro-motor dyspraxia, affecting their ability to make and co-ordinate the movements of the larynx, lips, tongue and palate and /or generalised dyspraxia affecting gross and fine body movements.

The favoured term in the UK is developmental verbal dyspraxia, however it is also sometimes referred to as articulatory dyspraxia and in the USA the usual term is developmental or childhood apraxia of speech.

Speech and Language Therapists usually diagnose developmental verbal dyspraxia by referring to checklists of characteristics and identifying a symptom cluster of presenting features. In addition to speech characteristics, checklists usually refer to commonly reported language, learning, clinical and motor characteristics.

Characteristics identified in the literature include:

Speech characteristics

- A limited range of consonant and vowel speech sounds
- Overuse of one sound (favourite articulation)
- Vowel distortions
- Inconsistent production
- Breakdown in sequencing in words, particularly as length increase
- Errors of omission and substitution – idiosyncratic substitutions may occur
- Glottal stop insertions and substitutions
- Voice difficulties affecting volume, length, pitch, quality
- Resonance difficulties affecting the overall tone of the speech
- Prosodic difficulties affecting rate, rhythm, stress, intonation
- Unintelligible speech

Co-occurring characteristics

- Family history of speech, language or literacy difficulties
- Delayed language development – expressive usually more affected than receptive
- Delayed development of early speech skills e.g. babbling
- Feeding difficulties
- Oral dyspraxia affecting movements of the larynx, lips, tongue or palate
- Generalised developmental dyspraxia affecting fine and /or gross motor co-ordination
Literacy difficulties affecting reading, spelling and writing
- Slow progress in therapy
- Literacy difficulties under co-occurring characteristics

Developmental verbal dyspraxia has been described as an unfolding and changing condition. The range of problems experienced "unfold" as the child progresses and more demands are placed on him. As a result, the presentation of a child with developmental verbal dyspraxia is different according to age and stage of development. Unfortunately, this complicates diagnosis.

Help for children with developmental verbal dyspraxia

Children with speech difficulties should be referred to a Speech and Language Therapist as early as possible. This can be arranged through a GP or Health Visitor or directly by contacting your local clinic or health centre.

The Speech and Language Therapist will be able to assess your child, identify the presenting difficulties and advise on management.

Your Speech and Language Therapist will be able to advise whether a label of developmental verbal dyspraxia is appropriate to describe your child's speech difficulties or whether another descriptor is more appropriate. Diagnosis of developmental verbal dyspraxia is complex and often becomes clearer over time.

Your therapist may also prefer to describe your child's difficulties rather than assign a label eg "Tom has a severe speech disorder, characterised by typical dyspraxic features, rather than "Tom has developmental verbal dyspraxia". This is accepted practice within the speech and language therapy profession.

It is generally recognised that children with developmental verbal dyspraxia do not get better without help. Usually they require regular, direct therapy delivered by a Speech and Language Therapist, supported by frequent practise outside the therapy sessions e.g. at home and /or in school.

Speech and Language Therapists use different therapy approaches to treat children with developmental verbal dyspraxia. One popular approach is The Nuffield Dyspraxia Programme (1985; 1992; 2004). It is one of the only published therapy approaches specifically for developmental verbal dyspraxia and is used widely by Speech and Language Therapists in the UK and overseas. It offers a systematic approach to the assessment and treatment of developmental verbal dyspraxia and is particularly suitable for children aged 3-7 years.

In the early stages of the Nuffield Dyspraxia Programme, basic oro-motor exercises are advised to help the child develop accurate and rapid movements of all areas of the speech apparatus in preparation for co-ordinating these movements in the production of speech sounds. If you are waiting to see a Speech and Language Therapist or want to start doing something helpful with your child, these oromotor exercises, written by Veronica Connery, Specialist Speech and Language Therapist provide a good starting point:

1. The Lips are important for control of dribbling, swallowing and blowing as well as speech sound production. During speech, some sounds, such as 'sh', 'w' and 'oo' need the lips to move forwards, other sounds such as 'ee' and 'm' need the lips spread.

Aims of exercise: to improve lip shapes and movements so that speech sounds can be made more easily.

Looking in a mirror
Making funny faces
Open and shut mouth
Make a big mouth like a lion
Make a little mouth like a mouse etc.

These will make your child more aware of his mouth and how it moves.

Blowing and sucking - through different pipes, tubes, straws etc.,

Helps lips make a rounded shape. Encourage him/her to hold with their lips alone, not with his teeth as well.

2. The Tongue is important for chewing, licking, and swallowing as well as playing a major part in speech production. During speech the separate parts of the tongue (tip, sides, back etc.) must move forwards, backwards, up, down, side to side rapidly for different sound to be produced.

Aims of exercise: to improve tongue shape and movements so that it is well controlled and placed accurately for speech sounds.

Encourage your child to practise sticking his tongue out – this helps to develop a good tip, which is essential for speech sounds. Do this while:

Looking in a mirror
Licking cooking spoons
Licking lollies

Try to encourage licking games which help lick downwards onto chin:

Lick sideways
Lick upwards, especially up behind the teeth.

It sometimes helps to emphasise where you want his/her tongue to go if you put his/her finger there and ask him to lick that.

NOTE: Tongue movements can be very difficult and you may find these suggestions are not working. If this happens, leave the exercises out and concentrate on other easier areas until the Speech and Language Therapist can advise you.

3. The Soft Palate is difficult to see, this fleshy continuation of the hard palate (roof of the mouth) performs a very important function. It is responsible for the shutting of the nasal passages and so prevents air from the lungs passing up the nasal passages, or food coming down the nose instead of being swallowed. The soft palate adopts this position in blowing, sucking and swallowing activities and should do so for all speech sounds except 'm', 'n' and 'ng'. If it is not working efficiently, speech will have a nasal quality.

Aims of exercise: to encourage easy rapid movements of the soft palate to close off the nasal passages when appropriate in speech.

Blowing activities encourage vigorous movements of the soft palate and will help develop muscle strength. If your child finds this very difficult and air comes down his nose, you can help by gently placing your thumb and forefinger under his/her nostrils – this will help close off the air stream and give him the feeling of air coming through his mouth and is more pleasant for the child than if you pinch his/her nostrils.

Blowing bubbles – a wand is difficult so use a simple blower (a variety are available in toy shops)

Blow painting through straws can be fun, if messy!

Blowing pipes, recorders, harmonicas, etc., is enjoyable and rewarding.

Blowing games are often enjoyed and will motivate him to try again – various blowing games can be found in toyshops as well as blow football (you can improvise with straws and cotton wool, paper or a table tennis ball).

If your child tends to bite too hard on ordinary straws or can't close his/her lips adequately round a straw, try plastic tubing such as that used for wine making.

4. The Larynx (voice box) is responsible for production of sound during speech. The sound is produced by air passing through the vocal chords to produce vibration. If these movements are weak or poorly co-ordinated the voice may be too quiet or loud, the pitch may be too high or low, and the voice may be husky or sound weak.

Aims of exercises: to improve the strength and quality of vocal tone. When encouraging your child to use a better voice, it is important to ensure that you do not create vocal strain – just asking him to make a louder sound may result in him shouting and becoming even huskier.

Encourage singing – using his voice with music in any way he can. A good way to motivate him/her is to encourage dancing, clapping to music as well as singing the tune – at first don't worry about the words, use "lala" or "ahah" or any other sound that he can manage.

Play games using different voices – a baby's, a man's, a little girl's, a teddy bear's, a mouse's, other animals etc. – this helps teach control of pitch.

5. Breath Control is the basis of all speech production. Speech is produced on exhalation (breathing out) and may be adversely affected by weak shallow breathing, an inability to control breathing out for long enough to produce a phrase or sentence, or poor co-ordination of breathing and speech patterns.

Aim of exercises: to encourage good easy breathing for speech.

a) Encourage your child to make a sound (e.g. "ah" or "ee" or "oo"), first of all for a short time and then gradually increasing the length of the breath and sound. Some visual cue will help him – run a toy car, or an animal or your finger along a line, or through amaze etc.

b) Using a blowpipe and ball (available in different forms from toyshops) try to keep the ball revolving in the air for an increasing length of time.

These suggestions should give you ideas on how to help your child become aware of the structures and movements needed for speech production and help him gain some control of them.

SOME BASIC RULES:

Make it fun - muscles will be more relaxed.

Praise him for effort even when he/she doesn't achieve the target you are aiming for.

Make the activity as easy as possible for him/her (e.g. the right size straw) so he/she can achieve.

Watch out for fatigue, muscles tire very quickly, so stop as soon as the child begins to fail or says he/she doesn't want to go on.

Encourage brothers, sisters and friends to join in so that it is fun and something everyone is doing – but watch out they are not the only one to fail the activity.

Progress in control of muscles is usually very slow, so don't be impatient, try to encourage him to keep trying.

These activities are suggested to help you until you can see a Speech and Language Therapist, when a programme tailored to his needs will be planned. If they are unable to do an activity do not persist – failure will only make your child more negative and make speech and language therapy even more difficult for all concerned. It is better to drop that set of exercises and continue with one he/she can cope with until specialist advice is available.

Good luck!

The Nuffield Hearing and Speech Centre is a department of the Royal National Throat, Nose and Ear Hospital and a division of Royal Free Hampstead NHS Trust. It offers second opinions to children with a variety of speech, language and hearing disorders, and is renowned for its interest in developmental verbal dyspraxia. For further information on the clinical services of the Centre and/or referral guidelines, please contact: Pam Williams, Principal Speech and Language Therapist. Tel: 020-7915-1535 or e-mail to: pamela.williams@royalfree.nhs.uk

Other useful sources of information

Apraxia kids: www.apraxia-kids.org

Afasic : www.afasic.org.uk

Further information available from:
Dyspraxia Foundation, 8 West Alley Hitchin Herts SG5 1EG
Helpline Tel: 01462 454986
Admin Tel: 01462 455016
Fax: 01462 455052
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