Developing Speech Breathing in Birth Clefts of Upper Lip and Palate

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Abstract – The present article reveals the speech breathing condition of children with rhinolalia speech disorders and their forming techniques in speech therapy trainings as well as the complex exercises for developing breathing.

Keywords – Rhinolalia, Preschool, Speech Disorders, Respiratory Exercises, Education, Correction, Rehabilitation, Speech Breathing, Speech Therapist.

Speech recovery of children with birth clefts of upper lip and palate is considered as a very complex task. The child’s speech is slowly formed and relied on the help of a specialist at any stage.

It is recommended to start speech therapy exercises before surgical operation or prosthesis in hard and soft palatal clefts [1].

After the treatment of paresis and paralysis the normal voice and speech are usually restored without speech therapy activities, but the cracks in the palate often cause mucus staff and without the speech therapy the fast and direct speech recovery can quickly return to the initial state where the speech becomes hypernasal and incomprehensible.

Speech therapy activities are conducted according to the following parts:

a) Forming speech breathing;

b) Exercises on activation of soft palate and speech apparatus;

c) Developing hearing attention;

d) Putting the sounds into speech and strengthening [2].

The work involves the main stage, which must be followed in a consistent sequence. The duration of each stage is determined only by the results of the work.

Before starting the exercise, children should not only undergo pediatricians and neuropathologists, but also should be examined by otolaryngologist to see if the nasal passages and their mucous membrane conditions are involved. Children with acute respiratory diseases, rhinitis and adenoids are not included in the group.

The children should be admitted to pre-school after their respiratory function being checked by the speech therapist and the therapy is repeated in the middle and end of the school-year.
The training is conducted with the help of well-known methods, as well as our own developed method that differs from the breathing gymnastics of A.N. Strelnikova.

It is preferred to train when there are no more than 7-8 children in the group [3,4].

**Stage I. Leading up to the traditional method of chest-abdomen development type of breathing.**

*The aim* is to develop the perception of the basal aorta and abdominal wall movement, that is, respiratory organs corresponding to the chest-abdomen. The stage includes four exercises. The duration of each exercise is 4-5 minutes. The exercises are repeated 2 - 3 times a day. Each exercise is studied for a week. The first stage lasts for the time it takes to develop the chest’s abdominal muscles.

Approximate duration of the stage is four weeks. During this time, the child performs the exercises consistently, first lying down, then sitting and standing.

It is important to keep active focus of children during the first exercise.

Observations have shown that some of the children move to the upper respiratory tract of breathing, where the body learns to change, and the hands placed on the diaphragm do not act. In this case, the speech therapist places the child’s palm on his or her diaphragm and offers him to “feel” with hands, as well as to monitor the movement of the abdominal wall while breathing.

During the exercise, the speech therapist monitors the intensity of child’s breathing and not raising of his shoulders. This control is important as the hyperventilation can easily occur in children with speech defects because of significant increase in air volume. The occurrence of the impedance can be determined by the following symptoms: blurring of the face, complaints of dizziness, and consequently refusal of training.

It is important to remember that at this stage, the child should focus on the diaphragm function, i.e. on the muscle contraction, not on the duration of the breathing in and out.

The formation of the chest-abdomen and shortening of the diaphragmatic muscles of the child are visually and accurately determined by the speech therapist (using a palm placed on the child’s diaphragm area).

**Stage II. Developing the chest-abdomen type of breathing along with elements of breathing gymnastics of A.N.Strelnikova.**

*The aim* is the further development of diaphragmatic muscle contraction activity, as well as the development of a coordinating relationship between the two functions respiratory and body movements.

The stage consists of three complexes of exercises, with sequential complication of movement tasks.

Approximate duration of the stage is 12-14 weeks.

The speech therapist faces the task of teaching children special breathing gymnastics. Particular attention should be paid to the following conditions.

1. The child’s active focus is directed on the respiratory phase.
2. The breathing is performed during physical stress.
3. All exercises are performed at a pace and rhythm that is comfortable for children.

Children with speech defects are easily hyperventilated during deep breathing. According to this feature, a quantitative “rapid breathing” technique has been developed that can be fulfilled through the nose. Breathing through the nasal passages is accompanied by noise and nose blockage.

To help children understand and master their breathing routines, the speech therapist offers a guide: “Let’s try to breathe in the air like animals, for ex., like puppies fast and with noise.”

There two consecutive “rapid breathing” skills are formed. The speech therapist controls visually and auditory the performance of children “rapid breathing” (double noise). Children focus on the movement of the nose, which is muscle contraction and double-noise.

**Stage III. Developing of phonetic breathing.**

*The aim* is to develop phonological (voiced) breathing.

The stage involves seven steps, where the child is focused on to the sound in expiring, not on “rapid breathing”.

Exercise 1. Performing a “rapid breathing” in pairs and pronouncing a vowel in breathing.

Exercise 2. Performing oral breathing (replacing “rapid breathing” with rapid oral breathing).
Exercise 3. Taking a breath in through the mouth with stretching upward and pronouncing vowels while breathing out and slowly lowering hands.

Exercise 4. Performing oral breathing and pronouncing the [u] sound with changing the volume of the breath.

Exercise 5. Performing oral breathing and pronouncing [i] with changing volume during breathing out.

Exercise 6. Performing oral breathing and pronouncing a series of consonants in different intonation when breathing out.

Exercise 7. Performing oral breathing and pronouncing consonants for a long time.

Stage IV. Development of speech breathing.

The aim is to develop personal speech breathing.

This stage is basic. It is closely linked to the speech therapy of forming speech planning. In the process of breathing, children learn to pronounce syllables and individual words, then two, then three or four words, and short poetic texts.

In the first session, the unconditional instructions are actively used. Rapid movement of the hands upward with spreading palms means initiating rapid breathing through the mouth. The amount of such instructions is reduced as children begin to breathe independently before the speech.

Each exercise lasts no more than five minutes and is repeated 3 to 4 times a day. Approximate duration of the phase is five weeks.

The first set of exercises.

The first set of exercises is performed during an hour and consists of pronouncing syllables.

Exercises 1 and 2. Performing oral breathing and pronouncing syllables through breathing out.

The second set of exercises.

The second set of exercises is completed in two weeks.

Exercise 1. Performing oral breathing and pronouncing two-syllable words while breathing out.

The following words are used: papa, mama, photo, etc.

Exercise 2. Performing oral breathing and pronouncing a three-syllable word.

The following words are used: migration, residence, etc.

The third set of exercises.

The third set of exercises takes about a week.

Exercise 1. Performing oral breathing and pronouncing a two-word sentence while breathing out.

Two and three syllable words are used in the sentence.

Exercise 2. Performing oral breathing and pronouncing a three-word sentence while breathing out.

Two-syllable words are used. For example, Mammy likes candy.

Exercise 3. Performing oral breathing and pronouncing four-word sentences while breathing out.

Two-syllable words are used. For example: Every baby needs mummy.

The fourth set of exercises.

The fourth set of exercises is completed within a week.

Children are not simply asked to repeat a sentence with a speech therapist or repeat a sample after him/her, but to complete the sentence by naming the picture itself.

All exercises are structured similarly, but first only subject images change, then separate words in a sentence, and then the entire sentence.

It is performed by oral breathing and pronouncing a four-word sentence.

The fifth set of exercises.

The fifth set of exercises is completed in two weeks.

Exercise 1. To pronounce two rhyme sentences based on the scheme.

Exercise 2. To pronounce four rhyme sentences based on the scheme. A poem that is familiar to children or an extract from them is used.

Stage V. Developing a breath of speech in the process of speaking.

The aim is practicing speech breathing in the process of speaking.

Approximate duration of the stage is four weeks.

Pronouncing the two sentences in the text based on the scheme. Pronouncing three or four sentences in the prosaic text on the scheme. Pronouncing a prose text that means completing each sentence by naming the object or object picture in advance.
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Describing or making up a sentence independently with the help of the demonstrated material or image (fruit, vegetables, etc.)

Recommendations for speech therapists and parents during the practice:

- The breath should be taken through the nose, shoulders should not rise;
- The breathing out should be long-term and stable;
- The cheeks should not work (in the initial period the cheeks are pressed with the palms);
- The exercises can be done in standing and sitting position;
- The child shouldn’t be overloaded during exercise. It is advisable to repeat the exercises 3-5 times. Too many breathing exercises can cause dizziness;
- After a few exercises the tasks becomes more complicated, while breathing the tongue should lie on the lower lip.

The above-mentioned exercises can also be used in correction and speech therapy exercises with children with various speech disorders.

REFERENCES
