

## **Abstract:**

### **Introduction:**

In relation to vocal learning and teaching in general schools it is imperative to understand the effects and strain of the child voice. Register shifts in youngsters during puberty have earlier been difficult to measure, but this is now possible in normal and pathological cases using software for phonetograms and fundamental frequencies. Especially in the pubertal transition period the change of voice can cause severe strain. This means that informing about the dangers even before the problem arises is of great benefit, also in child choirs.

### **Material and method:**

A book has earlier been made: Normal Development of Voice in Childhood (1). 8 cases of pathological adolescent voices have now been compared with this normal population especially in adolescence. A supplemental evaluation of pathology was made with high speed films.

### **Results:**

It is now possible to differentiate between normal voice development and pathological voices in youngsters. Normal development shows welldefined changes per year in phonetograms and also in singing categories. With high speed films compared with phonetograms the pathological mucosa of the larynx is seen and can be visually compared online with eletroglottograms, acoustical curves and movement of the vocal chords. The treatment of pathology of the vocal chords during childhood is discussed also in singers.

Prophylactic courses in vocal understanding and the awareness of boundaries within register-shifts should be considered. The strain of child voice often has its roots in wrong vocal technique.

**Keywords:** High speed, phonetogram, voice, adolescence

### **Reference:**

(1) Book: Pedersen M. 2008. Normal Development of Voice in Children ([www.books.google.com](http://www.books.google.com))