As part of the treatment for laryngeal tumors, the larynx is often removed. These laryngectomized patients lose their voice box and with it, their voice and speech. To restore speech, patients obtain an indwelling voice prosthesis. With this prosthesis, patients can use the upper part of their esophagus as a substitute glottis, the neo-glottis.

It is currently not clear how the neo-glottis responds to long term use in speech. Tissue characteristics might change over the years which might affect voice and speech quality. Therefore, the question arises whether the quality of the substitute voice of our patients changes over time. We collected pairs of speech samples, a reading of the "80 dappere fietters" text, from 13 patients recorded with an interval of 7 years or more. Ten experienced speech and language pathologists rated these recordings on intelligibility and voice quality.

Our results show no definite change during this time. Some patients are evaluated as having better speech after this time, some worse. On average, there might be a small, statistically non-significant decrease in speech intelligibility and voice quality that might possibly be related to aging. We conclude that the long time quality of TE voices is remarkably stable.