

Development of a Non-Invasive Evaluation System of Swallowing Function

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The aim of study was pilot study for the development a non-invasive and non-contact system for evaluation of swallowing function.

[Study 1] We focused on laryngeal movement. In patients with dysphagia, there was a tendency for longer swallowing times and larger laryngeal elevation. On the other hand, in elderly people, women and post neck-surgery patients, detection of laryngeal movement was difficult. [Studies 2 and 3] The amount of skin movement on the lateral side of the neck was less affected by patients' conditions compared to the midline skin movement.

【Discussion and Conclusion】 These results suggested that lateral neck skin movement and deformation could potentially be used as an indicator for swallowing function. We plan to increase the sample size and use machine learning, to apply more advanced analysis.