

**Appendix 1**

Adenoid-to-nasopharynx (A/N) ratio: the child slightly raises the lower jaw to reduce the overlap between the lower jaw and nasopharynx. The bilateral angles of the lower jaw overlap. The orbitoear line is parallel to the ground. The centerline passes through 2 cm below the front of the external auditory meatus. The X-ray is taken at the timepoint of full inhalation, as the raised soft palate during inhalation can create a false impression of narrowed nasopharynx. However, the true narrowing exists only when the soft palate is at its lowest position and the posterior diameter of the nasopharynx is largest during full inhalation.

**Appendix 2**

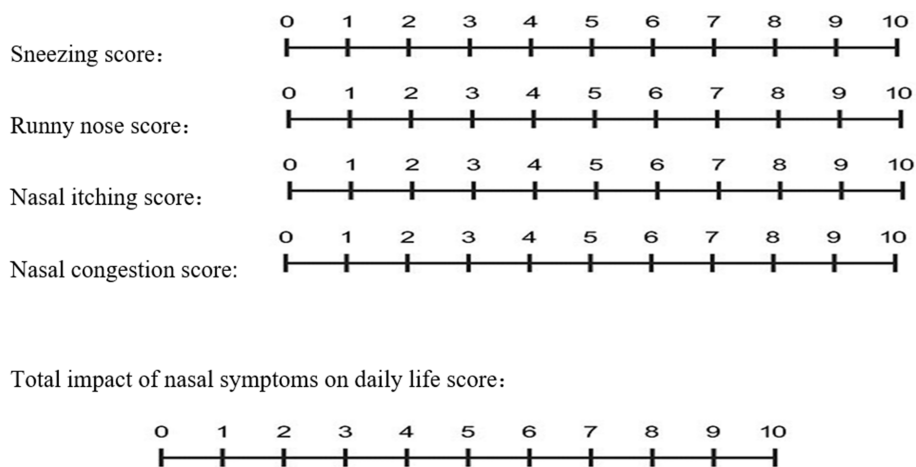
Scoring of nasal symptoms: for quantifying nasal symptoms in children, it is recommended to use a Visual Analogue Scale (VAS), which subjectively divided the severity of symptoms as mild, moderate, or severe ones. As shown in *Figure S1*, the scale from 0 to 10 represents the severity of the corresponding symptom. “0” indicates no symptoms, while “10” indicates the most severe symptoms. The score was assessed based on the symptoms of patients themselves experienced in the past week.

**Appendix 3**

Scoring of adenoid hypertrophy (AH) symptoms: the symptoms of patients, including nasal congestion, snoring, mouth breathing, and disturbed sleep before and after treatment are observed and recorded. As shown in *Table S1*, each symptom is scored on a five-point scale from 0 to 4, with 0 indicating none or no occurrence, 1 indicating mild hypertrophy or rarely occurrence, 2 indicating moderate hypertrophy or occasional occurrence, 3 indicating severe hypertrophy or frequent occurrence, and 4 indicating extremely severe hypertrophy or regular occurrence.

**Appendix 4**

Scoring of medications (*Table S2*): according to the Clinical Practice Guidelines for the Diagnosis and Treatment of Pediatric Allergic Rhinitis, oral and/or topical antihistamines (nasal or ocular), nasal corticosteroids, and oral corticosteroids score 1, 2, and 3 points per day. Use of  $\beta$ 2 receptor agonists when combined with asthma scores 1 point per day. Besides, inhaled corticosteroids score 2 points per day. The cumulative score of all medications is the total score for medications.



**Figure S1** Scoring of nasal symptoms based on Visual Analogue Scale.

**Table S1** Scoring of adenoid hypertrophy symptoms

| Symptom          | Pre-treatment score | Post-treatment score |
|------------------|---------------------|----------------------|
| Nasal congestion |                     |                      |
| Snoring          |                     |                      |
| Mouth breathing  |                     |                      |
| Restless sleep   |                     |                      |

**Table S2** Scoring of medications

| Medication  | Score/day | Days | Score |
|-------------|-----------|------|-------|
|             |           |      |       |
|             |           |      |       |
|             |           |      |       |
| Total score |           |      |       |