

## **User Guide for the T14**

**The T14 is a validated outcome measure intended for completion by parents of children under 16 with tonsil and adenoid disease (either infective or obstructive conditions).**

**It is not intended as a diagnostic tool, or to guide management; national or local guidelines should be used for this aim. Instead, it is intended to measure the impact of these conditions on the health related quality of life of the child. They are best used as repeated measures to document changes over time, particularly following medical intervention.**

**The tool has 14 items that will take less than 5 minutes to complete. Each item is scored on a scale of 0 to 5, thus creating a total score between 0 to 70, with higher scores representing more severe impact of disease. The tool may also be used as two subscales, with the first 6 items loading onto an ‘obstructive’ domain, and the remaining 8 items (shaded on the outcome tool) loading onto an ‘infective’ domain. At present all items are equally weighted.**

**The tool is freely available for use to health-care professionals from the ENT-UK website, although we ask that data collected by shared with the authors to permit further refinement of the instrument.**

# PAEDIATRIC THROAT DISORDERS

## OUTCOME TOOL (T-14)

Name	
D.O.B	ATTACH ID LABEL HERE
Hospital No	

Below you will find a list of symptoms and problems that may be caused by your child's throat problems. We would like to know more about these and would appreciate your answering the following questions to the best of your ability. There are no right or wrong answers, and only you can provide us with this information.

DATE OF COMPLETION: / /

Considering how severe the problem is when your child experiences it and how often it happens over the past <b>six months for your child</b> , please rate each item below on how "bad" it is by circling the number that corresponds with how you feel using this scale: If a certain question is <u>not</u> a problem for your child, please circle "0". Please try not to miss any questions.	No problem	Very mild problem	Mild or slight problem	Moderate Problem	Severe Problem	Problem as bad as it could be
1. Snoring loudly during sleep	0	1	2	3	4	5
2. Irregular or stopped breathing (apnoea) during sleep	0	1	2	3	4	5
3. Day time sleepiness	0	1	2	3	4	5
4. Noisy breathing during the day	0	1	2	3	4	5
5. Breathing through the mouth during the day	0	1	2	3	4	5
6. Problems with poor appetite, or poor eating habits (choking on food etc)	0	1	2	3	4	5
7. Frequent ear ache or ear infections	0	1	2	3	4	5
8. Repeated short-term throat infections that last less than 2 weeks	0	1	2	3	4	5
9. Constant, or chronic, throat infections that last more than 2 weeks	0	1	2	3	4	5
10. Many phone calls to the doctor or NHS direct	0	1	2	3	4	5
11. Many visits to the family doctor or A&E department	0	1	2	3	4	5
12. Taking antibiotics over and over for <u>less than 2 weeks</u> at a time	0	1	2	3	4	5
13. Taking antibiotics for <u>more than 2 weeks straight</u>	0	1	2	3	4	5
14. Missing school days due to sore throats	0	1	2	3	4	5

Please enter any further important symptoms that occur as a result of your child's throat problems that we have missed from the list above, and give each a rating from 0 to 5 like the ones already listed:

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## **The T-14: A valid, sensitive and reliable parent-reported outcome measure for Paediatric Throat Disorders**

Sore throats are said to account for 35 million days lost from school or work per annum in the UK<sup>3</sup>. In excess of 30,000 tonsillectomies were performed on children aged 2- 14 years of age in NHS hospitals in England during the 2005 – 2006 financial year<sup>4</sup> (HES data). 70 – 80% of these are given as management for recurrent sore throats, the remainder for obstructive symptoms<sup>5</sup>. In the same period the Chief medical Officer for England, Sir Liam Donaldson, highlighted geographical variation in tonsillectomy rates that he claimed was “unacceptable”<sup>6</sup>.

The use of patient-reported outcome measures (PROMs) is rapidly growing in studies of clinical effectiveness and quality of care. By 2010, all NHS hospitals in England will be required to submit such data for a range of indicator procedures<sup>1</sup>. We set out to develop and validate a disease-specific PROM for use in children with throat disorders (both obstructive and infective indications), which will allow both the impact of these conditions on health related quality of life to be measured, and to assess the effectiveness of treatment.

We modified and abbreviated a pre-existing instrument, the Tonsil and Adenoid Health Status Instrument, to make it suitable for rapid completion in children with tonsil and adenoid disease in the UK. We have determined the main psychometric properties of the resulting 14-item Paediatric Throat disorders Outcome Test (T-14).

Pre- and post-operative questionnaires were completed by parents of children with throat disorders, referred to two large hospitals. We included both those with recurrent tonsillitis and obstructive sleep apnoea. A separate cohort of healthy children with comparable age range was also studied. The internal consistency and responsiveness, were analysed and construct validity documented via known-group differences.

126 completed questionnaires were received from the hospital referral group. The children's mean age was 6.5 years (range 1 – 16). The 40 unaffected children were well matched in age to the study population (mean 6.1 years, range 2 – 15).

The Cronbach's alpha for the pre-operative assessment on the T-14 total score was 0.84. The test-retest reliability coefficient for the total score was 0.98, indicating very high reproducibility. The T-14 discriminates well between children known to suffer with throat problems and a group of healthy controls ( $p < 0.0001$ ;  $t = 24.016$ ). Parentally reported T-14 scores were also improved (ie lower) ( $t = 7.01$ ;  $p < 0.0001$ ) 6 months following surgical intervention. The standard effect size (change in mean divided by the baseline SD) in patients completing post-operative questionnaires was 1.53. This is very large.

## **Conclusions**

The T-14 is an appropriate disease-specific parent-reported outcome measure for children with throat disorders, for which we have demonstrated internal consistency, reliability, responsiveness to change, and two forms of construct validity. It is freely available for use on the ENT-UK website.