A five-year follow-up observational study of the T-14 paediatric throat disorders outcome measure in tonsillectomy and adenotonsillectomy

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Introduction: The T-14 questionnaire (Figure 1) is a validated outcome measurement tool, used to assess the value of paediatric tonsillectomy from a parent's perspective. There is a paucity of data regarding the long-term post-operative effects of tonsillectomy on quality of life in the paediatric population. Our previous study assessed T-14 scores up to year 2 post-operatively, with this study extending follow-up to 5 years.

Materials and Methods: We undertook a prospective uncontrolled observational study examining 54 paediatric patients undergoing tonsillectomy at Portsmouth Hospitals NHS Trust. Parents of children undergoing surgery were invited to complete a T-14 questionnaire pre-operatively, as well as at 3 months, 6 months, 1 year, 2 years and now 5 years post-operatively.

Results: In total, 44 out of 54 patients completed questionnaires pre-operatively and at all post-operative time points, with 46 being completed at 5 years. There was a highly significant ($p < 0.001$) difference between the pre-operative, and all other measured T-14 scores post-operatively. The mean score pre-operatively was 33.3 compared to 1.0 at 5 years (Figure 2). There was no significant difference in scores based on phenotyping (Figure 3).

Figure 1: T -14 Questionnaire

Considering how severe the problem is when your child experiences it and how often it happens over the past six months for your child, 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 less than 2 weeks at a time	0	1	2	3	4	5
13. Taking antibiotics for more than 2 weeks straight	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:

Figure 2: Total T-14 scores pre-operatively and up to 5 years post-operatively. Statistical analysis was performed using t-tests, 0.05 (*) and 0.001 (***)

Figure 3: Total T-14 scores preoperatively and up to 5 years postoperatively, subdivided for indications for tonsillectomy (A), surgical procedure undertaken (B), age category at time of surgery (C) and sex (D)

Conclusions: This is the first study within the literature to assess long-term quality of life following paediatric tonsillectomy, using the T-14 questionnaire. The ongoing benefit of tonsillectomy on long-term quality of life further confirms its value within the paediatric population.