

# Correlation of Nasolabial Scores and Five Years' Old Index

**Principle Applicant:** Tara Lee

## Scientific outline

### Aims:

1. To determine if there is a relationship between photographic nasolabial scores (to include frontal views and worms eye views) and 5-year olds' index study model scores.
2. To determine what factors might influence this relationship.

### Objectives:

The objectives of this research are:

1. To identify the CCUK 5 years cohort study models and nasiolabial photographs and ensure they are concordant.
2. To score the nasiolabial photographs( to include frontal views and worms eye views) using a customised web based scoring system and to investigate any relationships with the study models scored using the 5 year olds index within and between assessors
3. Carry out statistical analysis using SPSS Software
4. Looking into factors which may influence correlation

### Hypothesis:

There is no correlation between nasolabial scores and 5- year olds' index.

### Plan of investigation:

#### I. Subjects

The cohort from CCUK studies will be used, and consists of 5 year olds born between 1/4/2005 and 31/3/2007 with non syndromic complete unilateral cleft lip and palate.

#### II. Design

##### *Inclusion Criteria:*

Subjects must have both a study model and photographic records from the CCUK Study.

##### *Exclusion Criteria:*

Subjects who do not have both a study model and photographic records from the CCUK Study.

#### III. Procedure

- Determine which subjects had both photographs and study models.
- Assessment of both the cropped photographs and study models by 3 orthodontists. The photographs will be inputted to a web based aesthetic scoring tool, and scored using a 5 point Likert Scale. The study models will be assessed using the 5 year olds' index.

- The scores will be inputted into SPSS statistical software. The degree of correlation will be determined by using Ordinal Logistics Regression, and inter and intra rater agreement using Kappa Statistics.

#### IV. Outcome Measures

The outcome measure for this study will be the ordinal logistics regression test.

#### V. Sample Size

5 year olds with both photographs and study models.

#### VI. Statistics

The following statistical tests will be used:

- Kappa statistics- inter and intra examiner agreement, to show the strength of agreement within the results.
- Ordinal Logistic Regression- to see whether if a subject gets a grade 1 for the 5- year olds' index will they get a grade 1 for the nasolabial appearance. We would like to see whether the ratings given for the 5- year olds' index can predict the ratings for the nasolabial appearance and vice versa.

#### VII. Project Management

The project team consists of

Professor Jonathon Sandy (Dean of Medicine and Dentistry)

Professor Anthony Ireland (Professor of Orthodontics)

Ms. Tara Lee (Orthodontic StR)

Dr. Andrew Wills (Statistician)

**Summary:** The measurement of treatment outcomes is important in order to help maintain and improve clinical care. There are several outcome measures available in cleft care due to the number of specialties involved in managing the condition. Two of these are, the 5-year olds' index and nasolabial appearance. I intend to find out whether the score given to the nasolabial appearance of non syndromic complete unilateral cleft lip and palate subjects correlates with the study model 5-year olds' index scores for the same subjects.

If a correlation is proven, then the authors hope that this might lead to a change in clinical practice. Instead of taking impressions to produce study models, photographs which are less invasive, will become gold standard for assessing primary outcomes on 5 year olds.