# Severity and Outcome Assessment for Surgical-Orthodontic cases

**Patient name** …………………………….    **Surgeon's initials** ……………………

**Hospital number** ……………………………    **Orthodontist's initials** ………………..

**Type of Case: Tick Box(es)**    Class I ☐    Class II ☐    Class III ☐    Anterior Open Bite ☐    Asymmetry ☐

## Section A: Assessment of Severity: Pre-Treatment Cephalometric Analysis

| Date of Ceph | |
|---|---|

| Measurement | Acceptable Range | Within Range? (Yes or No) |
|---|---|---|
| ANB | -1° to 7° | |
| SNB | 72° to 84° | |
| LFH% | 51% to 59% | |
| Overjet | 1.3mm to 5.3mm | |
| Overbite | 0.8mm to 6.8mm | |
| UI / Mx | 97° to 121° | |
| Holdaway | 7° to 14° | |
| **Severity Score** = Total number of *Yes* Grades (Possible Range 0-7, lower scores represent more severe pre-treatment) | | |

Comparison with the National Outcomes Audit findings

The *Mean* Severity Score in the National Audit was 3.8 with a standard deviation of 1.3. Therefore 68% of cases fell within the range of 2.5 to 5.1 in the National Audit.

3% of cases had the most severe scores of 1 or less; 16% had a score of 2 or less; 41% had a score of 3 or less; 69% of cases had a score of 4 or less; and 92% had a score of 5 or less.

(e.g. A pre-treatment severity score of 2 would put that case among the most severe 16% of the national audit cases)

## Section B: Assessment of Outcome: Post Treatment Cephalometric Analysis

| Date of Ceph (pre- or post-debond) | |
|---|---|

| Measurement | Acceptable Range | Within Range? (Yes or No) |
|---|---|---|
| ANB | -1° to 7° | |
| SNB | 72° to 84° | |
| LFH% | 51% to 59% | |
| Overjet | 1.3mm to 5.3mm | |
| Overbite | 0.8mm to 6.8mm | |
| UI / Mx | 97° to 121° | |
| Holdaway | 7° to 14° | |
| **Outcome Score:** = Total number of *Yes* Grades (Possible Range 0-7, higher scores represent better outcome): | | |

Comparison with the National Outcomes Audit findings

The *Mean* Outcome Score in the National Audit was 5.4 with a standard deviation of 1.3. Therefore 68% of cases fell within the range of 4.1 to 6.7 in the National Audit.

20% of cases had the best score of 7 (best outcome); 52% had a score of 6 or above; 80% had a score of 5 or above; and 91% of cases had a score of 4 or above.

(e.g. A post-treatment outcome score of 7 would put that case among the most best 20% of outcomes from the national audit)

# Explanatory Notes on Using the Surgical Orthodontics Assessment Sheet

1.  The assessment is based on the National Outcomes Audit for Surgical Orthodontic Treatment that was presented at the Consultant Orthodontic Group Symposium in 2002.

2.  Measurements can be carried using the COGSOFT OPAL software or similar software. The Holdaway angle cannot be measured using the current version of OPAL software (although this is planned for future versions) and must be therefore be measured manually. This can be easily carried out using a plot from the OPAL software and it is not necessary to measure it on the film itself. The Holdway angle is measured as the angle STNasion (Soft Tissue Nasion) – STPog (Soft Tissue Pogonion) – LabrSup (Labrale Superius). These points can be printed on an OPAL plot by selecting the Show Points option. The angle needs to be measured manually using a protractor.
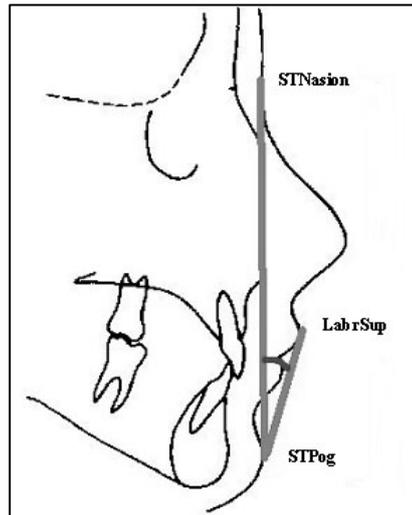


3.  The acceptable ranges are based on the Eastman Normal values plus/minus 2 standard deviations with the exception of the Holdaway measurement for which the acceptable range is as suggested by its originator

4.  The outcome and severity analyses are most useful if used on groups of cases (i.e. calculating *mean* severity and outcome scores in order to audit one's own cases). In the National Outcomes Audit, each orthodontist was asked to submit 6 cases. Nevertheless the proforma can also be used for single cases to identify which individual parameters fall outside the normal ranges.

5.  It is recognised that the assessment only includes 7 parameters. These were carefully chosen so as to provide a representation of the main skeletal, dento-skeletal, dental and soft tissue measurements.