

## Supplemental material 2

### Definitions of the reference planes and lines that utilized in this study

| Reference plane/ Line         | Abb     | Definition                                                                        |
|-------------------------------|---------|-----------------------------------------------------------------------------------|
| <b>Reference plane</b>        |         |                                                                                   |
| Horizontal plane              | HP      | Constructed by three-point left porion with two sides Orbital                     |
| Midsagittal Plane             | MSP     | Constructed by Two points N, Sella, and perpendicular to the HP                   |
| Vertical Plane                | VP      | Constructed sella point and perpendicular on sagittal and horizontal plane        |
| S–N plane                     |         | Constructed by two-point Sella, Nasion, and perpendicular on the horizontal plane |
| Mandibular fossa plane        | MFP     | Constructed by MF and perpendicular on a vertical- and horizontal plane           |
| <b>Reference Line</b>         |         |                                                                                   |
| TM line                       | IM-AT   | Determined through auditory meatus and anterior tubercle                          |
| Anteroposterior condylar line | ACP–PCP | A line extends from ACP to PCP                                                    |
| Mediolateral condylar line    | MCP–LCP | A line extends from MCP to LCD                                                    |