



PREVALENCE AND LOCALIZATION OF THE **ACCESSORY ANTERIOR SUPERIOR ALVEOLAR NERVE** FOR IMPLANT PLACEMENT IN THE ESTHETIC ZONE

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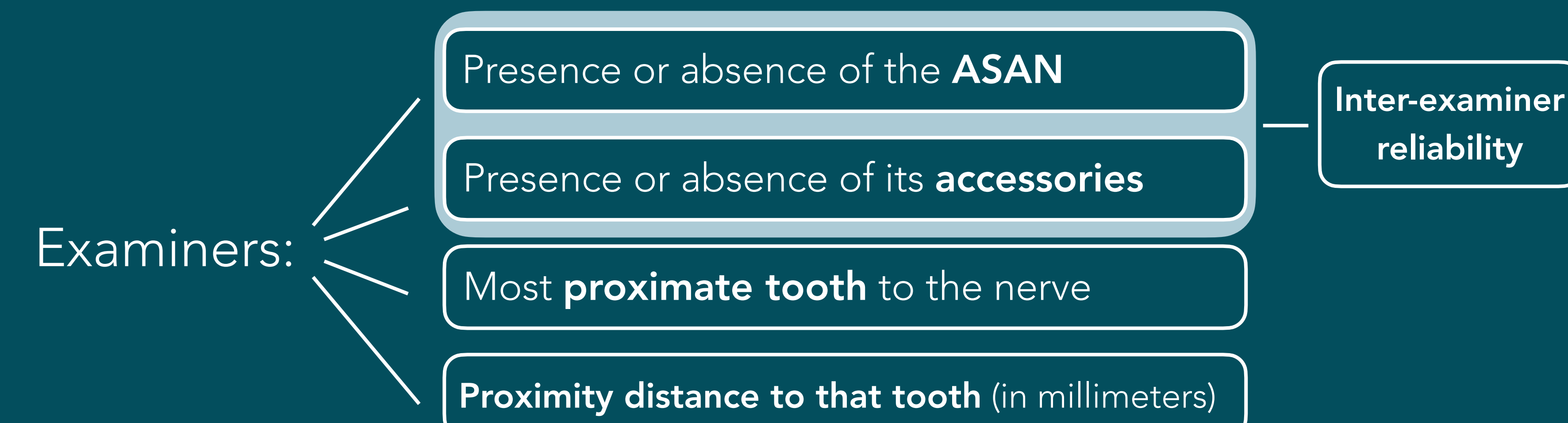


INTRODUCTION

Accessories to the Anterior Superior Alveolar Nerve (**ASAN**) are **commonly present** but often **under-recognized** in clinical practice.^[1] The presence of these accessories further **complicate implant planning and placement** in the *maxillary esthetic zone*.^[2] Of concern are **neurovascular bundle damage**, potentially leading to paraesthesia, pain, bleeding from arterial damage or sometimes even implant failure.^[3] To **assess the consistency of identifying** the ASAN and its accessories, **inter-examiner reliability was studied**.

MATERIALS AND METHODS

Three examiners trained in oral and maxillofacial radiology assessed **63 Cone Beam Computed Tomography (CBCT) volumes** on a CBCT viewing software - Romexis®, Planmeca, Finland to identify the ASN nerve and its accessories in the maxillary esthetic region. The kappa score was used to compute inter-examiner reliability



The entire extent of the nerve was traced using implant planning software for representation using coDiagnostiX®, Straumann, Switzerland. (Fig 1.)

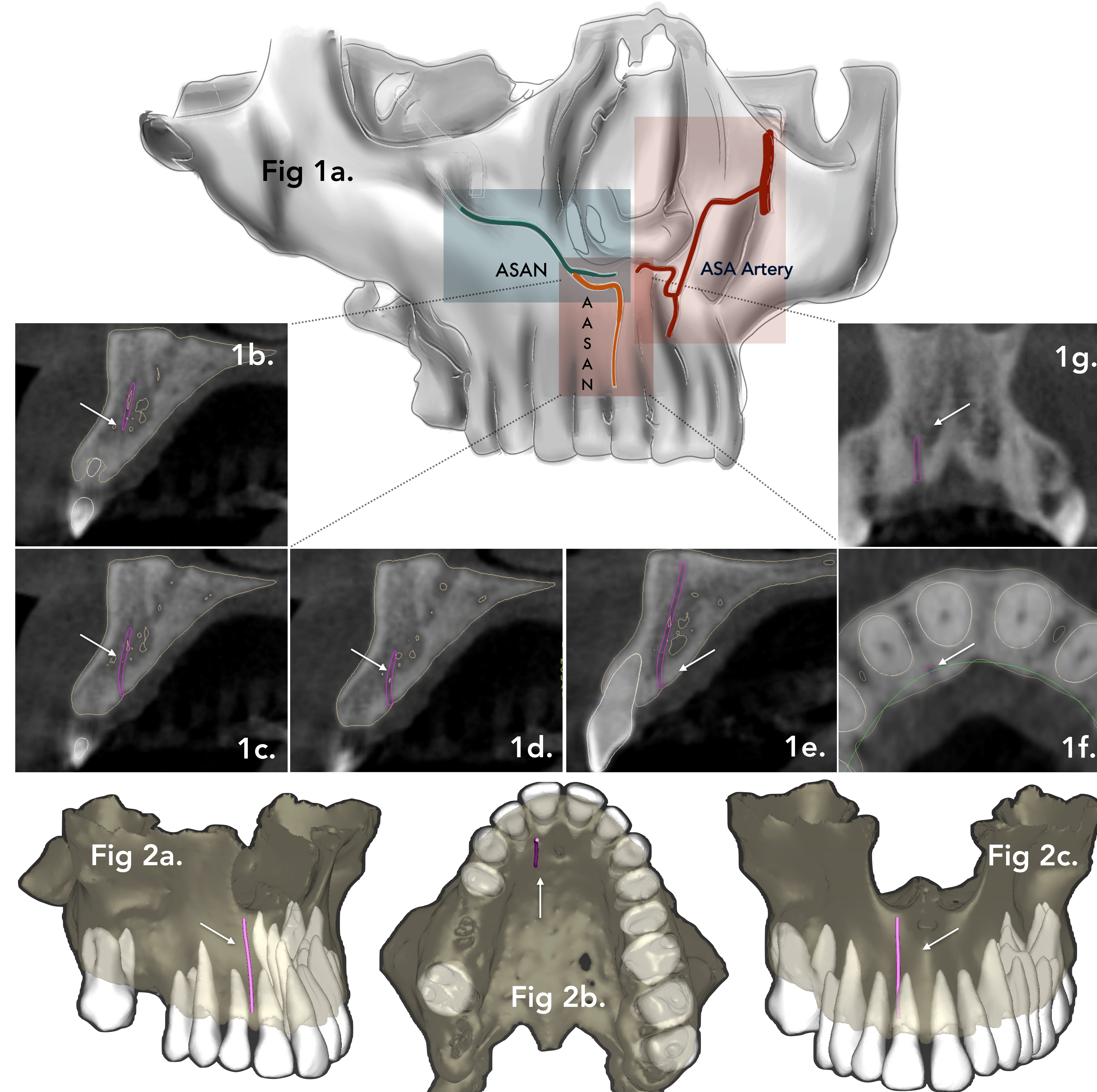
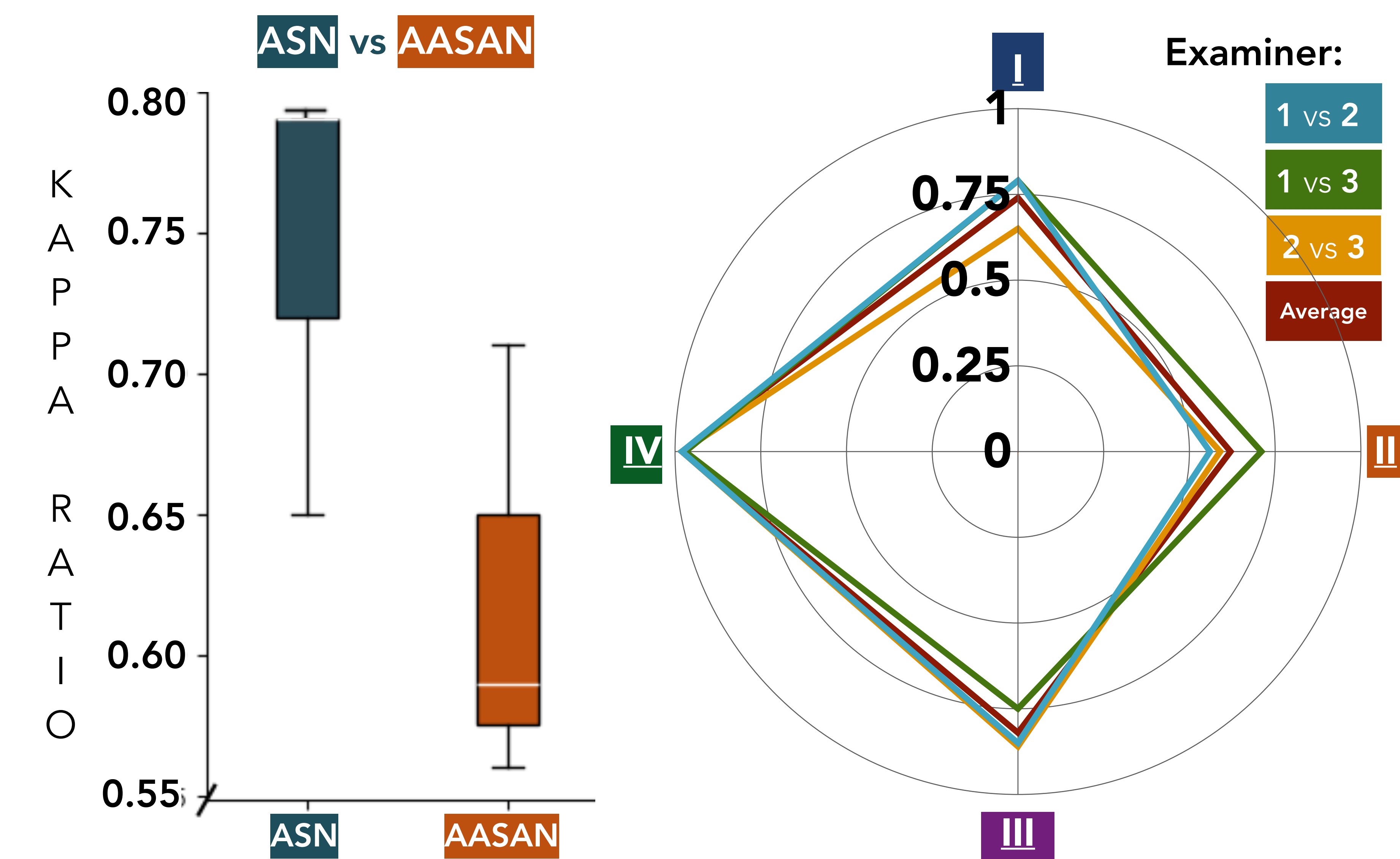


Fig 1a. Schematic depicting course of ASAN (green) and AASAN (orange) and ASA artery (red);
1b → d. CBCT Sections: Sagittal, 1e. Tangential, 1f. Axial, 1g. Coronal depicting AASAN;
Fig 2. AI 3D Reconstructions with AASAN in Pink

RESULTS

- I: ASAN:** 0.65 to 0.79: **substantial agreement**
- II: AASAN:** 0.56 to 0.71: **moderate agreement**
- III: Tooth type:** Substantial to perfect agreement [#9 > #8 > #7]
- IV: Distance to tooth:** Excellent agreement [Average: 2 mm]



CONCLUSION

This study **emphasizes the need for identification of AASAN in CBCT in the esthetic zone**. While identification of the ASAN is generally reliable, the AASAN is often overlooked, which increases the risk of post-surgical complications similar to ones encountered Inferior Alveolar Nerve impingement including sharp, electric pain, paresthesia.

Key takeaways:

- Need for awareness
- Enhanced training in AASAN identification
- Correlation with implant placement and adjacent teeth

