

# Effect of Dental and Skeletal Malocclusion on Position of Head on Cheek while Aiming the Rifle

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**Abstract**— A malocclusion is a misalignment or incorrect relation between the teeth of the two dental arches when they approach each other as the jaws close. In this paper we have discussed the class of occlusion and its effect on the orientation of shooter head on Rifle cheek.

**Key words:** Skeletal Malocclusion, Rifle Cheek, Head

## I. INTRODUCTION

Occlusal force is the result of the combined action of the jaw elevator muscles modified by complex jaw biomechanics. The investigation of occlusal force integrates several domains of expertise and can facilitate an improved understanding of the mechanics of mastication, facial morphology, periodontal status [1]. Anteroposterior disproportions have been categorized into class I (normal), class II (retrusion of the mandible), and class III (protrusion of the mandible). These disproportions can affect facial morphology, soft tissue outlines, and occlusal patterns.

## II. ANGLE CLASS I, II, III

### A. CLASS I

#### 1) Molar Relationship:

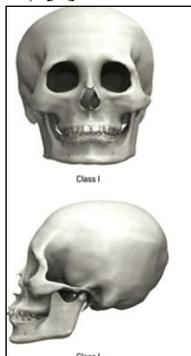
The mesiobuccal cusp of the maxillary first permanent molar occludes with the mesiobuccal groove of the mandibular first permanent molar.

#### 2) Canine Relationship:

The mesial incline of the maxillary canine occludes with the distal incline of the mandibular canine. The distal incline of the maxillary canine occludes with the mesial incline of the mandibular first premolar.

#### 3) Line of Occlusion:

ALTERED in the maxillary and mandibular arches . – Individual tooth irregularities (crowding/spacing/other localized tooth problems). – Inter-arch problems (open bite/deep bite/cross bite) [2].



### B. CLASS II

#### 1) Molar relationship:

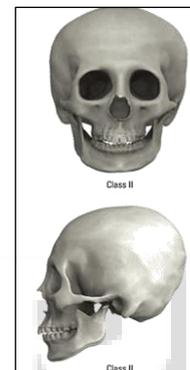
The molar relationship shows the mesiobuccal groove of the mandibular first molar is DISTALLY (posteriorly) positioned when in occlusion with the mesiobuccal cusp of

the maxillary first molar. Usually the mesiobuccal cusp of maxillary first molar rests in between the first mandibular molar and second premolar.

#### 2) Canine Relationship:

The mesial incline of the maxillary canine occludes ANTERIORLY with the distal incline of the mandibular canine. The distal surface of the mandibular canine is POSTERIOR to the mesial surface of the maxillary canine by at least the width of a premolar.

Line of occlusion is not specified but irregular, depending on facial paern, overcrowded teeth and space needs.



### C. CLASS III

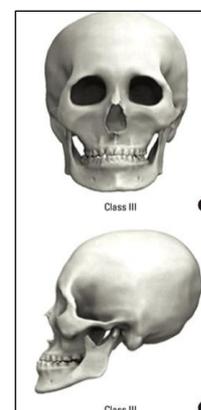
#### 1) Molar relationship:

The mesiobuccal cusp of the maxillary first permanent molar occludes DISTALLY (posteriorly) to the mesiobuccal groove of the mandibular first molar.

#### 2) Canine Relationship

Distal surface of the mandibular canines are mesial to the mesial surface of the maxillary canines by at least the width of a premolar . Mandibular incisors are in complete crossbite.

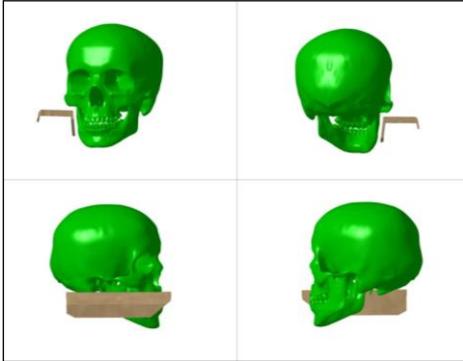
Line of occlusion is not specified but irregular, depending on facial paern, overcrowded teeth and space needs.



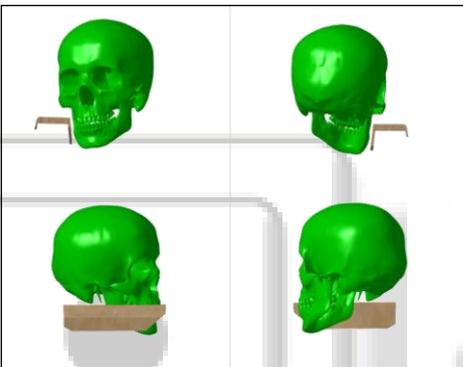
### III. EFFECT OF MALOCCLUSION ON HEAD POSITION OVER CHEEK

Different lower jaw position result in different position of head on the cheek piece of Rifle. Here we have observed three Angle's class of occlusion [3].

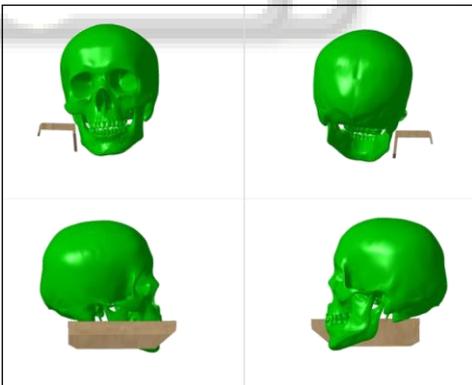
#### A. CLASS I



#### B. CLASS II



#### C. CLASS III



As the lower jaw is oriented in different position the position of the head also changes, for this we have patented a cheek design which accommodate these malocclusions.

### IV. CONCLUSION

It is to conclude that dental and skeletal malocclusion can have certain effect on the position of head on the cheek piece of a shooter while aiming and this difference should be considered while training. Further the difference can be resolved by the use of our new cheek design.

### REFERENCES

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