Republic of Iraq Ministry of Higher Education and Scientific Research University of Baghdad College of Dentistry



#### **OCCLUSION IN IMPLANT**

# A Project submitted to College of Dentistry,University of Baghdad ,Department OF Prosthodontics in Partial Fulfillment for the Bachelor of Dental Surgery

By

Fatima Fawzi Bachai

:Supervised by

**Dr.Noor Falah** 

**B.D.S., MSc. Prosthodontics** 

### **Certification of the Supervisor**

I certify that this project entitled "**occlusion in implant** " was prepared by **Fatima Fawzi bachai** under my Supervision at the College of Dentistry / University of Baghdad in partial fulfillment of the graduation requirements for the Bachelor Degree in Dentistry .

Supervisor's name: Dr. Noor Falah Date:2023\4\30

#### Dedication

I would be honored to dedication this project to my parents and my brother .they supported me and encourage me on evry step in my life and gave me everything necessary to be who Iam now.

Finally my dream came true and Iam writing my graduation project from the college of Dentistry \ University of Baghdad .

Fatima

Π

## Acknowledgment

First and foremost ,Praise and thank to Allah Alimighty for helping me fuifill my dream , for His blessing throughout my work to .compelet it successfully.

Iwould like to extend my deeps respect and gratitude to the dean of the college of dentistry \University of **Baghdad Dr. Raghad** Al Hashimy.

Iwould also like to thank for Head of prosthodontics department **.Dr.Abdalbasit Ahmed.** 

Last but not least Iwould like to thank my supervisor **Dr. Noor Falah** to help me in this project.

Fatima

# List of Contents

| Subjects   | Page no. |
|--|----------|
| Certification of the Supervisor                  | 1        |
| Dedication                                       | п        |
| Acknowledegement                                 | ш        |
| List of contents                                 | IV       |
| List of figures                                  | VI       |
| Introduction                                     | 1        |
| Aim of the review                                | 2        |
| Chapter one :Review of Literature                | 3        |
| 1. Occlusion                                     | 4        |
| 1.1 Centric occlusion                            | 4        |
| 1.2 Eccentric occlusion                          | 4        |
| 1.3 Balanced occlusion                           | 4        |
| 1.4 Working occlusion side                       | 4        |
| 1.5 Balancing occlusion side                     | 4        |
| 1.6 Protrusive balancing occlusion               | 5        |
| 1.7Principle of occlusion                        | 5        |
| <b>1.8 Principal components of the occlusion</b> | 6        |
| 1.8.1 Posterior support                          | 6        |
| 1.8.2 Occlusal vertical dimension                | 6        |
| 1.8.3 Eccentric guidance                         | 6        |
| 1.9 Concepts of occlusion for complete denture   | 7        |
| 1.10 Factors of occlusion                        | 8        |
| 1.11 Dental implants                             | 9        |
| 1.11.1 Benefits of Dental Implant                | 9        |
| 1.11.2 Types of dental implants                  | 9        |
| 1.11.2.1 Single - tooth implants                 | 9        |
| 1.11.2.2 Multiple dental implants                | 10       |
| 1.13 Principle of occlusion in implant           | 10       |
| dentistry  |          |
| 1.113.1 IMPLANT PROTECTIVE                       | 12       |
| OCCLUSION  |          |

| 1 12 1 10  | 10 |
|--|----|
| 1.13.1.1Premature occlusal contacts                                    | 13 |
| 1.13.1.2 Controlling the occlusal table width                          | 14 |
| 1.13.1.3 Mutually protected articulation                               | 14 |
| 1.13.1.4 implant body orintiation                                      | 15 |
| 1.13.1.5 Crown cusps angle   | 16 |
| 1.13.1.6 Cantilever and IPO  | 17 |
| 1.13.1.7 Crown height and IPO  | 18 |
| 1.13.1.8 Occlusal contact position                                     | 19 |
| 1.13.1.9 Implant crown contour   | 20 |
| 1.13.1.10 Provision of adequate surface area                           | 22 |
| 1.13.1.11 Implant body angle to occlusal load                          | 22 |
| 1.13.1.12 . Occlusal material  | 22 |
| 1.13.1.13 Parafunctional activity                                      | 23 |
| 1.13.1.14 Timing of loading  | 23 |
| <b>1.14 Occlusal Guidelines for different clinical situations</b>      | 24 |
| 1.15 Significance of occlusion on osteointegrated implants             | 25 |
| 1.16 Overloading factors of Implant Occlusion                          | 25 |
| 1.17 management of complication by targeting occlusal overload factors | 26 |
| 1.18Occlusal design for implant prostheses                             | 26 |
| 1.18.1 removable partial denture                                       | 26 |
| 1.18.2 Fixed partial dentures  | 27 |
| Chapter two: conclusion  | 28 |
| conclusion   | 29 |
| References   | 30 |

# List of figures

| figure | Title  | Page |
|--------|--|------|
| 1.1    | Single tooth implant                                       | 9    |
| 1.2    | Cusp inclination   | 16   |
| 1.3    | Cantilever on two implants                                 | 17   |
| 1.4    | Crown height   | 18   |
| 1.5    | Occlusal contact   | 19   |
| 1.6    | Maxillary natural tooth vs mandibular implant supported    | 20   |
| 1.7    | Maxillary implant supported vs mandible<br>supported       | 21   |
| 1.8    | Maxillary implant supported vs mandibular<br>natural teeth | 21   |

## List of Abbreivation

| IPO | Implant protect occlusion |
|-----|---------------------------|
| MI  | Maximum intercaspation    |