

MAEER'S PUNE



**MAHARASHTRA INSTITUTE OF  
DENTAL SCIENCES AND  
RESEARCH, LATUR.**



***DEPARTMENT OF ORTHODONTICS  
AND DENTOFACIAL ORTHOPEDICS***

Students Name \_\_\_\_\_

\_\_\_\_\_

Roll No \_\_\_\_\_ Batch \_\_\_\_\_

Exam No \_\_\_\_\_

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**CERTIFICATE**

This is to certify that Mr. /Miss \_\_\_\_\_

Exam seat no \_\_\_\_\_ Has attended and completed all the wire bending exercises and model analysis in the department of orthodontics as per MUHS regulations.

Date:

**INSTRUCTOR'S SIGNATURE**

**PROFESSOR & H.O.D**

**DEPT. OF ORTHODONTICS**

## WIRE BENDING EXERCISES

SR NO	DATE	NAME OF THE EXERCISE	GRADE	SIGN
<b>A) GLASS SLAB EXERCISES</b> <b>2<sup>ND</sup> YEAR QUOTA</b>				
1		Straightening of 19 gauge wire of 15 cm.		
2		Straightening of 19 gauge wire of 15 cm.		
3		Straightening of 21 gauge wire of 15 cm.		
4		Straightening of 21 gauge wire of 15 cm.		
5		Preparation of <b>equilateral triangle</b> with 19 gauge wire of 2 inch each side.		
6		Preparation of <b>rectangle</b> with 19 gauges wire of sides 2 x 1inch.		
7		Preparation of <b>square</b> with 19 gauge wire of 2 inch each side.		
8		Preparation of <b>circle</b> of 5cm diameter with 19 gauge wire		
9		Preparation of 5 ' <b>U</b> '- ' <b>V</b> ' loops in a series with 19 gauge wire		
<b>B) CAST EXERCISES</b> <b>3<sup>RD</sup> YEAR QUOTA</b>				
10		Preparation of " <b>C</b> " clasp with 19-gauge wire on <i>ideal cast</i> .		
11		Preparation of " <b>C</b> " clasp with 19-gauge wire on <i>patient cast</i> .		
12		Preparation of <b>Full</b> clasp with 19- gauge wire on <i>ideal cast</i> .		
13		Preparation of <b>Full</b> clasp with 19-gauge wire on <i>patient cast</i> .		
14		Preparation of <b>Adam's</b> clasp with 22 gauge wire on <i>ideal cast</i>		
15		Preparation of <b>Adam's</b> clasp with 22-gauge wire on <i>patient cast</i> .		
16		Preparation of <b>Short Labial Bow</b> with 21 & 23 gauge wire on <i>ideal cast</i>		
17		Preparation of <b>Short Labial Bow</b> with 21& 23 gauge wire on <i>patient cast</i>		
18		Preparation of <b>Long Labial Bow</b> with 21&23 gauge wire on <i>ideal cast</i>		

19		Preparation of <b>Long Labial Bow</b> with 21&23gauge wire on <i>patient cast</i>		
20		Preparation of <b>Single Cantilever</b> spring with 23 gauge wire on 11 and 21 <i>ideal cast</i>		
21		Preparation of <b>Single Cantilever</b> spring with 23 gauge wire on 11 and 21 <i>patient cast</i>		
22		Preparation of <b>"Z"</b> spring with 23 gauge wire on 11 and 21 <i>ideal cast</i>		
23		Preparation of <b>"Z"</b> spring with 23 gauge wire on 11 and 21 on <i>patient cast</i>		
24		Preparation of <b>Finger</b> spring with 23 gauge wire on 11 and 21 <i>patient cast</i>		
25		Preparation of <b>Finger</b> spring with 23 gauge wire on 11 and 21 <i>ideal cast</i>		
26		Preparation of <b>'T'</b> spring with 23 gauge wire on premolars in <i>ideal cast</i>		
27		Preparation of <b>'T'</b> spring with 23 gauge wire on premolars in <i>patient cast</i>		
28		Preparation of <b>Self Supported Canine Retractor</b> with 23 gauge wire on both sides		
29		Preparation of <b>Helical Type Canine Retractor</b> with 23 gauge wire on both sides		
30		Preparation of <b>"U" Loop Canine Retractor</b> with 23 gauge wire on both sides		
31		Preparation of <b>Reverse Loop Canine Retractor</b> with 23 gauge wire on both sides		
32		Preparation of <b>Palatal Canine Retractor</b> with 23 gauge wire on both sides		
<b>C) APPLIANCE WITH WAX PATTERN</b>				
33		Hawley's appliance		
34		Oral screen		
35		Inclined plane		
36		Removable appliance with "Z" spring		

## **Basic Wire Bending Exercise Objectives**

### **STRAIGHTENING OF WIRE:**

Objective of this exercise is into familiarize with properties of austenite stainless steel during the process of straitening one gets approach cold working or stress incorporation. The plasticity and resistance both can be felt.

### **EQUILATERAL TRIANGLE, RECTANGLE AND SQUARE:**

The aim of the exercise is to familiarize our self with a wire bending with pliers utilizing the plasticity/formability of austenitic stainless steel.

### **MAKING A CIRCLE:**

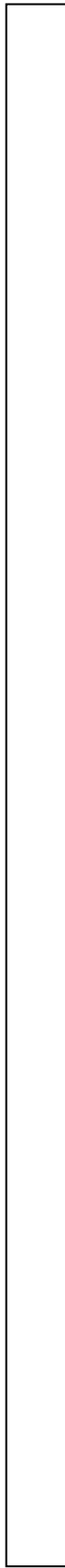
To familiarize our self by bending of wire using thumb and forefingers without using plier. In this exercise plasticity and formability of the stainless steel can be felt.

### **U'- 'V' LOOPS IN A SERIES:**

To familiarize the operator in forming sharp bends and maintaining the plane of the wire.

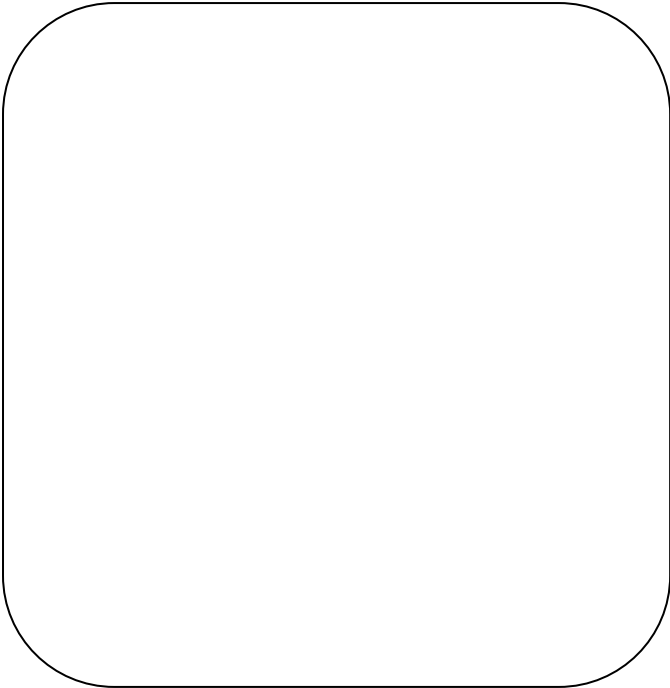
# *Basic Wire Bending Exercise*

STRAITENING

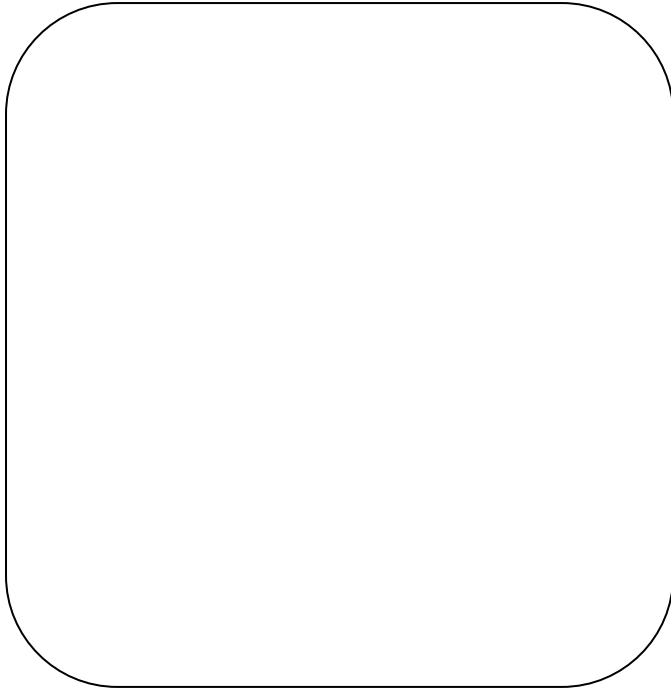


*Basic Wire Bending Exercise*

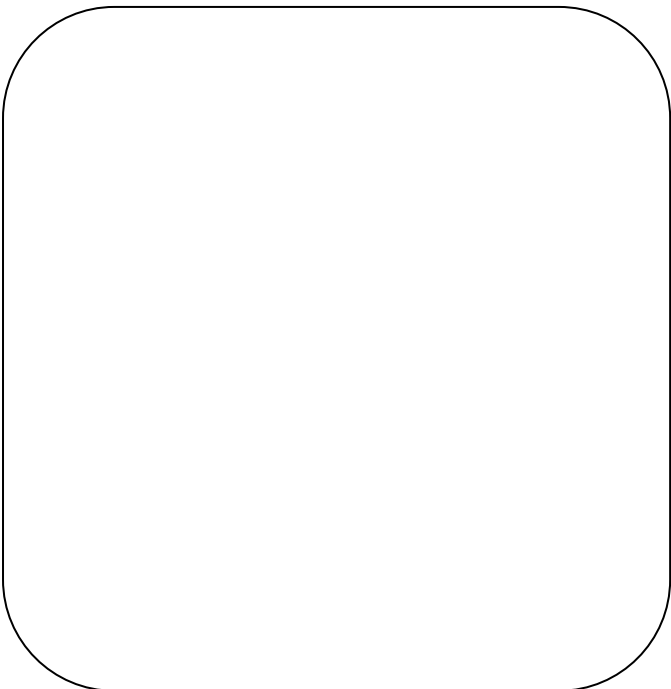
**TRIANGLE**



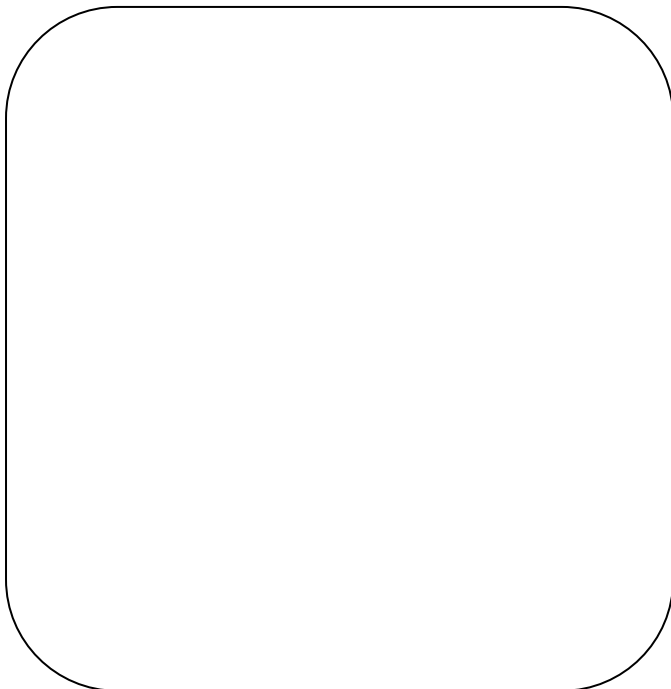
**SQUARE**



**RECTANGLE**

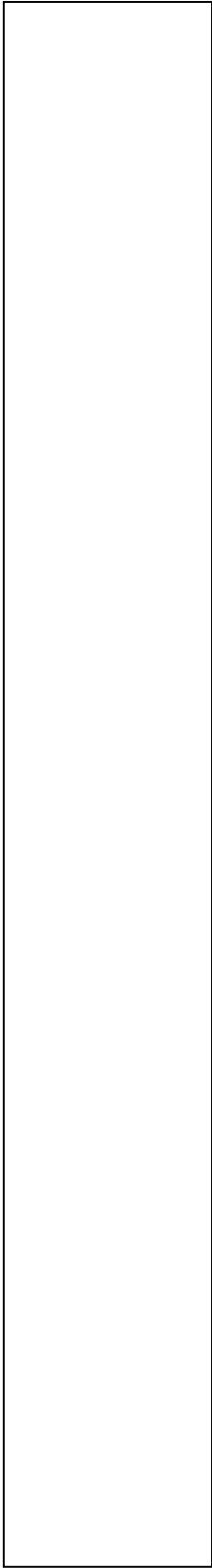


**CIRCLE**

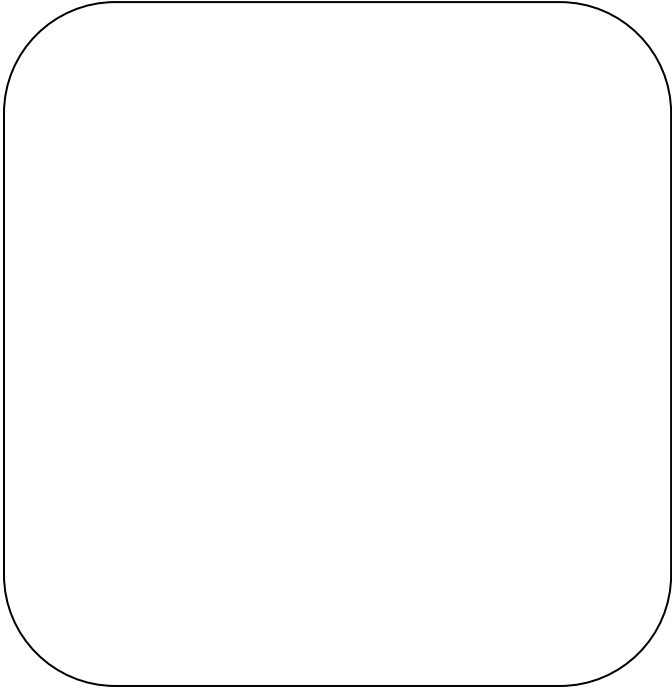


*Basic Wire Bending Exercise*

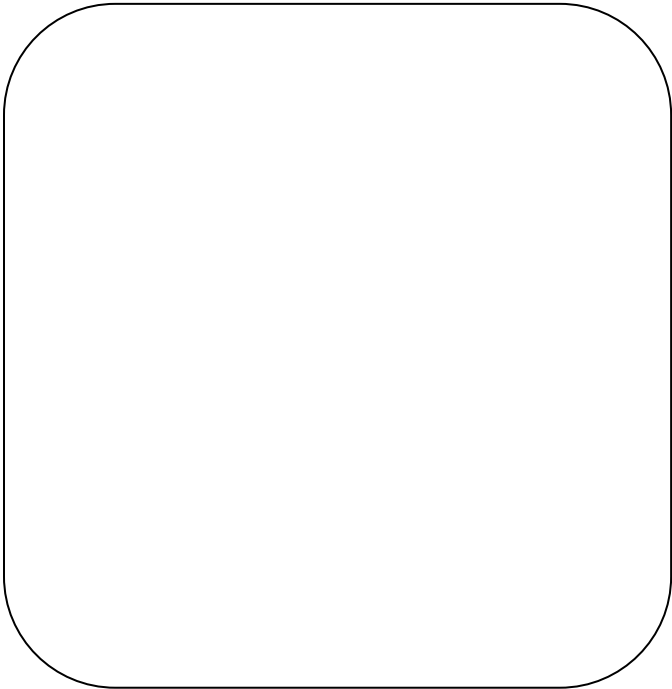
U'- 'V' LOOPS



C-CLASP



U-CLASP





## **ORTHODONTIC APPLIANCE:**

Orthodontic appliances are mechanical appliances by means of which pressure can be applied to a tooth or a group of teeth in a predetermined direction.

### **MECHANICAL APPLIANCES ARE DIVIDED INTO:**

- i. Removable appliance
- ii. Fixed appliance
- iii. Semi-fixed appliance
- iv. Sectional fixed appliance

### **ACTIVE APPLIANCE:**

Appliance which have the means of creating and storing pressure are called as active appliance and these may be removable or fixed appliances.

### **PASSIVE APPLIANCE:**

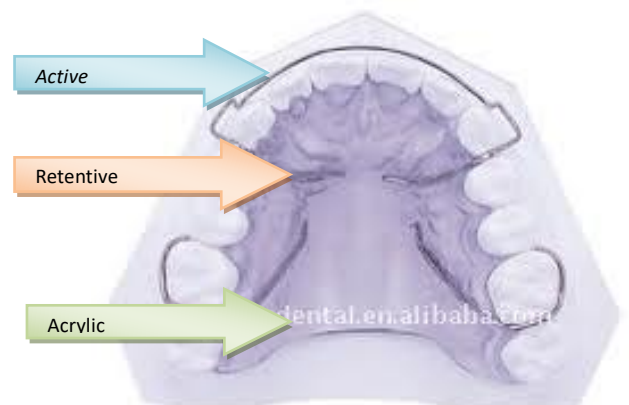
Passive appliance do not carry active component, they maintain the integrity of the arches or redirect the natural forces to bring about the desired changes.

Ex: Retention Appliance

Space Maintainer

### **COMPONENT PARTS OF REMOVABLE APPLIANCES:**

- 1) Active Component
- 2) Retentive Component
- 3) Acrylic Base Plate



## **REMOVABLE APPLIANCE**

Removable appliance are orthodontic devices which can be taken out by the patient for cleaning and which are designed to apply forces to the teeth by means of springs screws and other mechanical components.

### **ADVANTAGES:**

1. Tipping, overbite correction more readily undertaken.
2. Less complex control as less teeth moved at a time and simple movements done.
3. Can eliminate occlusal interferences.
4. Can be done by a general practitioner.
5. Less chair side time.
6. Less expensive.
7. Cleaned by the patient.
8. If causing trouble to the patient can be removed
9. Esthetically better.

### **LIMITATIONS:**

1. Patient cooperation necessary.
2. Only tipping is possible.
3. Rotations of only one or two teeth is possible if more than fixed appliances.
4. Only few teeth can be moved at a time so prolongs the treatment.
5. Can not be done in extraction cases as no bodily movement.
6. Encroaches the tongue space and hence a problem in retention.

### **INDICATIONS:**

1. Growth modifications during mixed dentition.
2. Limited tipping, rotation required.
3. Arch expansion.
4. Retention after fixed treatment.

**DETAIL DESCRIPTION OF COMPONENTS OF REMOVABLE APPLIANCE**

MODEL ANALYSIS SUBMITTED

<b>SR NO</b>	<b>DATE</b>	<b>EXERCISES</b>	<b>SIGN</b>
<b>1</b>		<b>MODEL ANALYSIS NO.1</b>	
<b>2</b>		<b>MODEL ANALYSIS NO.2</b>	
<b>3</b>		<b>MODEL ANALYSIS NO.3</b>	
<b>4</b>		<b>MODEL ANALYSIS NO.4</b>	
<b>5</b>		<b>MODEL ANALYSIS NO.5</b>	
<b>6</b>		<b>MODEL ANALYSIS NO.6</b>	
<b>7</b>		<b>MODEL ANALYSIS NO.7</b>	
<b>8</b>		<b>MODEL ANALYSIS NO.8</b>	
<b>9</b>		<b>MODEL ANALYSIS NO.9</b>	
<b>10</b>		<b>MODEL ANALYSIS NO.10</b>	

## **MODEL ANALYSIS**

**Diagrammatic presentation and detailed analysis, diagnosis, treatment planning, treatment modalities and type of retention.**

- 1) **PONTS ANALYSIS**
- 2) **ASHLEY HOWES ANALYSIS**
- 3) **NANCE & CAREYS ANALYSIS**
- 4) **BOLTON**
- 5) **SPACE ANALYSIS**
- 6) **DIAGNOSIS AND TREATMENT PLANNING**
- 7) **RETENTION**