



Kennedy Classification is a system used to classify partially edentulous arches based on the location and number of edentulous (missing teeth) areas in relation to the remaining natural teeth.

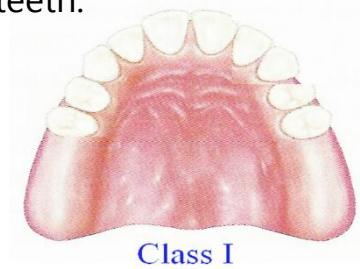
It is essential for:

- Treatment planning
- RPD design
- Major connector selection
- Support, retention, and stability planning

◆ Class I

Definition:

Bilateral edentulous areas located posterior to the remaining natural teeth.



Class I

Simple Idea:

Missing teeth on both sides (posterior free-end saddles).

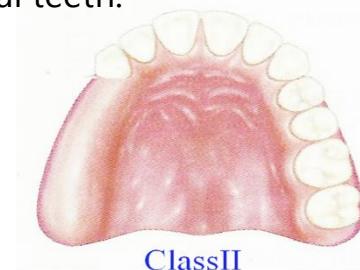
Example:

Teeth present anteriorly only + missing molars on right & left.

◆ Class II

Definition:

A unilateral edentulous area located posterior to the remaining natural teeth.



Class II

Simple Idea:

Missing posterior teeth on ONE side only.

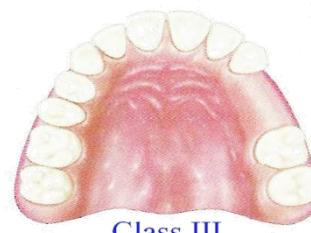
Example:

Right side missing molars + left side natural teeth present.

◆ Class III

Definition:

A unilateral edentulous area with natural teeth remaining both anterior and posterior to it (bounded saddle).



Class III

Simple Idea:

Gap between teeth (bounded by teeth on both sides).

Example:

Missing premolars but molar and canine still present.



◆ Class IV

Definition:

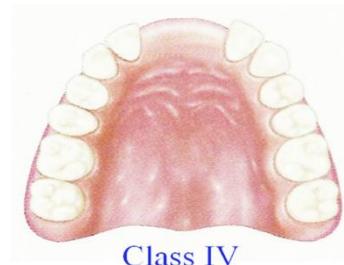
A single, bilateral (crossing the midline) edentulous area located anterior to the remaining natural teeth.

Simple Idea:

Anterior missing teeth crossing midline (front teeth).

Important:

⚠ Only ONE anterior space crossing midline.

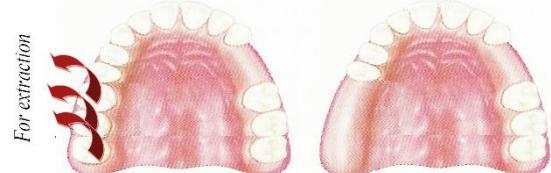
**★ Kennedy Modifications****Definition:**

Any additional edentulous area other than the one determining the main classification.

- Class I, II, III → Can have modifications
- Class IV → X Cannot have modifications

Applegate's Rules**Rule 1**

Classification should follow rather than precede extraction that might alter the original classification.

**Rule 2**

If the third molar is missing and not to be replaced, it is NOT considered in the classification.

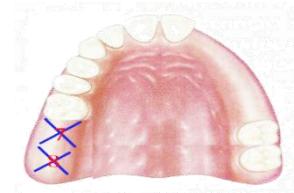
**Rule 3**

If a third molar is present and is to be used as an abutment, it IS considered in the classification.



Rule 4

If a second molar is missing and is not to be replaced, it is NOT considered in the classification.

**Rule 5**

The most posterior edentulous area(s) always determine the classification.

**Rule 6**

Edentulous areas other than those determining the classification are called **modification spaces** and are designated by their number.

**Rule 7**

The extent (size) of the modification is NOT considered, only the number of additional edentulous areas.

**Rule 8 (VERY IMPORTANT 🔥)**

Class IV arches do NOT have modification spaces.

Even if additional edentulous areas exist, the arch is NOT classified as Class IV if another posterior space is present.

**💡 Step-by-Step Trick:**

1 بضم على آخر مكان فاضي في الضرس ورا
(Most posterior edentulous area)
ده اللي بيحدد الكلاس →

لو فقد من ورا على جنب واحد
→ Class II

2 لو فقد من ورا على الجانبين
→ Class I

4 لو في فراغ بين سنين (bounded space)
→ Class III

5 لو الفراغ قدام وبيعدى الا midline
→ Class IV

🧠 Quick Memory Hack

- Free end bilateral = Class I
- Free end unilateral = Class II
- Bounded saddle = Class III
- Anterior crossing midline = Class IV






قول في دماغك كده في أي صورة

"Locate the most posterior edentulous area → Determine Class → Count extra spaces → Apply Applegate Rules"

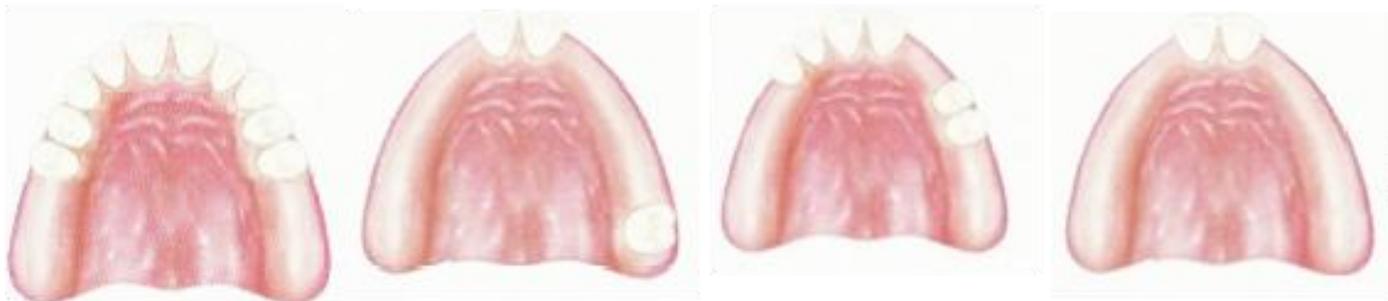
بص على آخر فراغ ورا

 حدد الكلاس

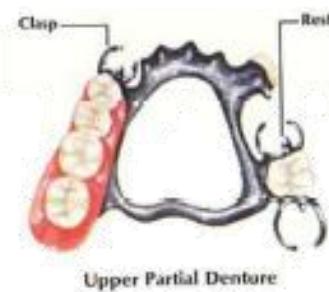
 = عد الفراغات الإضافية = Modification

 نهائي Class IV مفيهاش Modification وتأكد إن

حل بقا دول 









- Partial Denture Basis
- Parts giving Support
- Design and Requirements

Support (Definition)

Support is the function of resistance to tissue-ward movement of the denture.

Functions of Support:

- Resists movement of the denture toward oral tissues
- Transfers occlusal forces to the supporting oral structures
- Distributes forces over the supporting structures
- Reduces excessive force concentration on a single area

◆ Sources of Support in Partial Denture

Support in removable partial dentures can be obtained from multiple components:

1 Denture Base

- From a broad, accurately fitting denture base
- Especially important in extension cases

2 Occlusal Rests

- Provide support on the primary abutments
- Essential in quadrilateral support cases
(e.g., bounded edentulous spans with anterior and posterior abutments bilaterally)

3 Major Connectors

- Rigid major connectors with **positive contact** (no relief)
- Particularly effective in maxillary cases
- The **middle palatal strap** is one of the most supportive major connectors



 Partial Denture Base (Denture Base / Saddle)

 Definition

The **Denture Base (Saddle)** is the part of the denture that rests on the oral mucosa and to which artificial teeth are attached.

 Functions of the Denture Base

1. Supports artificial teeth
2. Aids in aesthetics (especially in the smile line)
3. Distributes occlusal forces to the residual ridge
4. Provides stimulation to underlying tissues through functional loading

◆ Types of Denture Bases

Denture bases are mainly classified into two basic types:

1 Tooth-Supported Denture Base

 Definition

A dental prosthesis base that restores an edentulous region which has abutment teeth at each end of the edentulous space.

 Characteristics:

- Supported primarily by occlusal rests on abutment teeth
- Load is transmitted mainly to abutment teeth
- Common in **bounded edentulous spaces**
- Provides better resistance to tissue-ward movement


 Example Concept:

If occlusal rests are placed on anterior and posterior abutments, support and resistance come mainly from the rests in positive contact with the occlusal surfaces.



2 Extension Base (Free-End Saddle)

Definition

A removable dental prosthesis supported and retained by natural teeth at one end of the denture base segment, where a significant portion of functional load is carried by the residual ridge.

Characteristics:

- Presence of a **free-end saddle**
- Large portion of load is borne by the residual ridge
- Only one side has abutment tooth support

Clinical Importance:

- Residual ridge undergoes changes over time
- Denture base may lose its accurate fit
- Requires design that allows **relining or rebasing** to maintain proper adaptation
- Prevents harmful movement and rotation of the free-end saddle

Feature	Tooth-Supported Base	Extension Base
Main Support	Abutment teeth	Residual ridge + abutment
Need for Relining	Usually not required	Often required
Base Material	Can be metal base	Prefer relinable materials
Load Distribution	Mainly on rests	Partly on ridge

Design Requirements of Free-End Denture Base

1 Maximum Tissue Coverage

- Broad coverage of the residual ridge
- Covers ridge height effectively

2 Intimate Fit

- Close adaptation between the base and underlying tissues
- Prevents displacement

3 Accurate Impression

- Special impression techniques are required
- Ensures maximum support from the residual ridge



Role of Denture Base in Stabilization

If the denture base:

- Has maximum ridge coverage
- Has intimate tissue adaptation

→ It prevents lateral displacement

→ Provides **stabilization** (resistance to horizontal movement of the partial denture)

Properties Required in Denture Base Materials

1. Mechanical Properties

- Sufficient strength to withstand occlusal forces
- Accurate adaptation to tissues
- Good dimensional stability
 - Accurate when delivered
 - Maintains accuracy over time

2. Biological Properties

- Biocompatible (non-irritant to oral tissues)
- Good thermal conductivity
 - Allows patient to feel thermal stimuli
- Low specific gravity
 - Lightweight (especially important in maxillary dentures)
 - Prevents excessive load on tissues

3. Hygienic Properties

- Easy to clean
- Maintains cleanliness
- Does not accumulate plaque easily

5. Clinical Handling Properties

- Easy to adjust and modify
- Should allow relining and rebasing when needed
- Maintains proper fit over time

4. Aesthetic Properties

- Should be aesthetically acceptable
- Color should harmonize with oral mucosa
- Important in visible areas (smile line)

6. Economic Property (Cost)

- Should be low cost and affordable
- High-cost materials (e.g., gold alloys) are rarely used due to expense

