SJIF Impact Factor (2025): 8.688| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 10 | Issue: 7 | July 2025 - Peer Reviewed Journal

FULL MOUTH REHABILITATION: CONCEPTS, TECHNIQUES, AND PHILOSOPHIES

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ABSTRACT

Full mouth rehabilitation (FMR) is a comprehensive prosthodontic procedure aimed at the restoration and maintenance of oral function, esthetics, health, and comfort in patients with severely worn dentition, mutilated arches, or generalized oral dysfunction. This review elaborates on the principles, indications, and techniques of FMR with a detailed focus on the Pankey-Mann-Schuyler philosophy and Hobo's Twin-Stage and Twin-Table techniques.

1. INTRODUCTION

Full Mouth Rehabilitation (FMR) refers to the restoration of the entire dentition using fixed, removable, or implant-supported prostheses. It involves a multidisciplinary approach, including prosthodontics, periodontics, endodontics, and sometimes oral surgery. It aims not just to replace lost teeth, but to re-establish function, occlusion, esthetics, and patient comfort.

2. INDICATIONS OF FULL MOUTH REHABILITATION

- Severe tooth wear due to bruxism or erosion
- Multiple missing teeth with altered occlusion
- Generalized attrition or abrasion
- Occlusal collapse
- TMJ dysfunction associated with occlusal discrepancies
- Post-trauma or post-surgical reconstructions

3. PRINCIPLES OF FULL MOUTH REHABILITATION

- Establishing a harmonious occlusion
- Restoring vertical dimension of occlusion (VDO)
- Achieving anterior guidance in harmony with condylar guidance
- Stabilizing centric relation occlusion
- Ensuring posterior disocclusion during eccentric movements
- Aesthetic rehabilitation of smile and facial support

4. STEPS IN FULL MOUTH REHABILITATION

1. **Diagnosis and Data Collection**
    - Clinical examination
    - Radiographic assessment
    - Articulator mounting
    - Diagnostic wax-up
    - Photographic analysis
2. **Treatment Planning**
    - Determination of VDO
    - CR records
    - Occlusal analysis
    - Diagnostic occlusal splint therapy
3. **Prosthetic Design**
    - Selection of occlusal scheme

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- Restoration of anterior guidance
- Posterior occlusal morphology

4. **Execution**
   - Tooth preparation
   - Provisionalization
   - Definitive restorations
   - Occlusal equilibration

5. OCCLUSAL PHILOSOPHIES IN FMR

Two major philosophies have influenced FMR:

1. **Pankey-Mann-Schuyler Philosophy**
2. **Hobo's Philosophy**

6. PANKEY-MANN-SCHUYLER (PMS) PHILOSOPHY

A. Historical Background

Developed by Dr. L.D. Pankey, Dr. Arne Mann, and Dr. H.H. Schuyler in the 1950s, this philosophy follows a step-wise protocol based on:

- Centric relation as the reference position
- Posterior disocclusion
- Anterior guidance harmonized with condylar guidance

B. Sequence of Restoration (PMS Protocol)

1. **Establish Centric Relation (CR):** Determined and recorded using a facebow and articulator.
2. **Posterior Wax-Up in CR:** Using a condylar guidance angle, posterior occlusion is waxed for stable centric contacts.
3. **Establish Anterior Guidance:** Should be in harmony with posterior disocclusion and condylar path.
4. **Functional Wax-Up:** Final wax-up with group function or canine guidance.
5. **Trial Restoration:** Splint/provisional for functional and esthetic adaptation.
6. **Final Prosthesis Placement**

C. Occlusal Scheme

- **Mutually protected occlusion**
- **Freedom in centric**
- **Canine guidance or group function based on individual needs**

D. Advantages

- Logical, sequential approach
- Highly customizable
- Time-tested with documented success

7. HOBO'S PHILOSOPHY

Developed by Dr. Satoshi Hobo in Japan, this approach is based on a scientific and mathematical interpretation of mandibular movements. It includes two main techniques:

A. Hobo's Twin Table Technique (1983)

Concept:

Uses two custom incisal guide tables:

- One for posterior tooth morphology
- One for anterior guidance

Steps:

1. **First Guide Table:** Fabricated using flat anterior guidance to develop standard cusp morphology.
2. **Second Guide Table:** Created after ideal anterior guidance is finalized; used to refine anterior teeth morphology.

Merits:

- Independent control over anterior and posterior occlusion
- Efficient for clinical execution

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B. Hobo's Twin Stage Technique (1991)

Core Principle

Posterior occlusal morphology is determined mathematically based on fixed condylar guidance (30° sagittal, 15° lateral).

Conditions Used:

- **Condition 1:** Used to fabricate posterior teeth with standard cusp angles.
- **Condition 2:** Used to develop anterior guidance such that it discludes the posterior teeth during eccentric movements.

Steps:

1. Record CR and mount casts
2. Use articulator with fixed CG (30°, 15°)
3. Fabricate posterior wax-up (Condition 1)
4. Replace incisal table to Condition 2
5. Wax anterior teeth to disclude posterior segments

Advantages

- Scientific standardization
- Simplifies complex jaw movement recording
- Ensures posterior disocclusion

Disadvantages

- Less customization for patient-specific TMJ variations

8. COMPARISON: PANKEY-MANN VS. HOBO TECHNIQUES

Parameter	Pankey-Mann-Schuyler	Hobo Twin Stage
Condylar Guidance	Patient-specific	Fixed (30°)
Anterior Guidance	Developed before posterior	Developed after posterior
Posterior Disocclusion	Customized	Standardized mathematically
Complexity	More clinical judgment	More mechanical protocol
Flexibility	Highly customizable	Less flexible

9. ARTICULATOR SELECTION

- Fully adjustable articulators for PMS
- Semi-adjustable articulators sufficient for Hobo techniques
- Facebow and CR record essential for accurate mounting

10. CLINICAL CONSIDERATIONS

- Provisional restorations play a vital role in evaluating vertical dimension and esthetics
- Periodontal, endodontic, and orthodontic status must be addressed pre-rehabilitation
- Implant-supported prostheses can be integrated into the FMR plan

11. COMPLICATIONS AND MANAGEMENT

- TMJ dysfunction if occlusion not stabilized
- Fracture of restorations due to occlusal overload
- Phonetic or esthetic discrepancies due to improper anterior tooth position

12. CONCLUSION

Full mouth rehabilitation is a comprehensive process requiring in-depth diagnosis, methodical planning, and skilled execution. Both PMS and Hobo philosophies provide structured approaches to restoring occlusion and function. PMS emphasizes personalization and clinical judgment, whereas Hobo's methodical philosophy favors mechanical precision. A successful FMR must consider patient comfort, function, esthetics, and long-term prosthesis survival.

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