Insertion & Post-Insertion Trouble Shootings for CD & RPD
Patient Demographics

- Will there be a need for complete dentures in 2020?
- Complete dentures patients will increase from 33.6 million adults in 1991 to 37.9 million adults in 2020.
- The 10% decline in edentulism experienced each decade for the past 30 years will be more than offset by the 71% increase in the adult population older than 55 years.
- If it hurts - **GRIND**
- If its loose - **RELINE**
Lesson

- Spend more time thinking, less time grinding
Five Principles For Troubleshooting

1. Establish differential diagnosis
2. Identify variations from normal
3. Have patient demonstrate problems
4. Always use indicating medium when adjusting
5. Have patient rate improvement after adjustment
Principal 1
Establish a **Differential Diagnosis**

- Form a list of possible causes
- Try to prove problem is not caused by “X” by eliminating possible causes
- Expect **resolution within 10-14 days**
- If no resolution, eliminate something else
 Principle 1: Differential Diagnosis

- **Prioritize** from common to rare
- **Eliminate** common etiologies first, because:

  Common things occur commonly
  Rare entities occur rarely
# Differential Diagnosis: CD or RPD Pain

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Attempt to eliminate problem. Re-evaluate results in 10-14 days.
Principles of Diagnosis

- Don’t limit list too early in diagnosis
- Keep an open mind
- Revisit possible causes when contradictory evidence is found
Information Gathering

- Chief Complaint
  - History of C.C.
- History
  - Medical
  - Dental
- Clinical Exam
Gathering Information

Ask open ended questions:

“How does that feel?”

Not

“How does that feel better?”
History of Chief Complaint

Where?

- Have patient point to problem
- Partially ignore patient’s position
- Dentist locate with stick, instrument or paste
History of Chief Complaint

When?

- Chewing only - Occlusion
- Gets worse throughout day - Occlusion
- When first insert dentures - Denture Base
- Pressure on 1st molars - Denture Base
History of Chief Complaint

Details

- How long?
  - does it last since it began?
- Anything makes it better/worse?
Dental and Medical History

- Often inadequately investigated
- Spend more time talking to narrow possibilities
Principle 2: Identify Variations from Normal: Tissues & Dentures
Loose Denture: Prominent Midline Fissure, Soft Palate
Dealing with Variations From Normal

- If denture alone is not normal - correct
- If anatomy/patient not normal, vary method to address variation
Principle 3: Have Patient Demonstrate Problem

- Eliminate cause - should resolve in 10-14 days
Principle 4: Always Use Indicating Media

Never adjust without locating exact position of the problem

Use paste, indelible stick, or articulating paper
Principle 5: Rate Improvement

After adjustment
Ask patient to rate improvement
0%-100%
Principle

Always have the patient rate improvement (0-100) after adjustment. If below 90%, more diagnosis/adjustment is required.
Principle 5: Rate Improvement

Better when:
- Sign of relief
- ‘Yes!’
- ‘You got it’
Denture Pain
CD & RPD

- Occlusion
- Denture base (fit & contour)
- Vertical dimension
- Infection
- Systemic disease/condition
- Allergy (rare)
Most Overlooked Problem

Occlusion

Don’t want the problem to be occlusion - so we look for other causes
Occlusion

- Takes time to remount (prep time)
- Reduces adjustment time
- Net savings of time
Pain: Occlusion

Diagnostic Strategies

- Eliminate as potential cause
- Remount denture on an articulator
- Centric relation & protrusive records
- Mark centric & excursive contacts, adjust
Don’t Adjust Occlusion Intraorally

- Contact on inclines can cause denture movement
- May cause pain, or reflex avoidance
- May make interference difficult to mark
Adjusting Occlusion Intra-Orally

Net Result

Can’t see real Problem
Can’t eliminate the Problem
Adjusting Occlusion

- Use an articulator
- Eliminates denture movement
- Can visualize interferences easily
- Saves time removing & replacing dentures
Pain: Occlusion

Dental History

- No pain when press firmly on 1st molars
- Only when chewing
- Gets worse with chewing
- Gets worse during the day
- May have to remove late in day
Pain: Occlusion

Clinical Exam

- Patient demonstrates problem by biting where pain occurs
- Ulcer or sore spots on sides of ridges
Pain: Occlusion

Clinical Exam

- Occlusal contact not centered over ridge
- Tilting forces cause displacement, abrasion, ulceration
- Worse if xerostomia, malnourished, debilitated or poor adaptability
Pain: Occlusion
Avoid Contact on Inclines

- **No teeth set over ascending portion of ramus**
Clinically

- Drop 2nd premolar if necessary
  - Ensures posterior contacts not too distant
  - Avoids ascending portion of ridge
  - Ensures adequate occlusal table (maintains 2 molars)
Clinically

- Place load over the mandibular ridge
Pain: Occlusion
Avoid Contact on Inclines

- No contact on inclines of denture bases
Pain: Occlusion

Clinical Exam

- Severe A-P Curve
Pain: Occlusion
Clinical Exam

- Minimal overjet (horizontal) of anterior and/or posterior teeth
Pain: Occlusion

Clinical Exam

- Severe disclusion of posterior teeth in excursions (lack of balance)
Avoid Setting Teeth in Tongue Space
Denture Pain
CD & RPD

- Occlusion
- Denture base (fit & contour)
- Vertical dimension
- Infection
- Systemic disease/condition
- Allergy (rare)
Pain: Denture Base

Dental History

- Firm pressure over molars - pain
- Problem starts in AM
  - tight, sore
- Discomfort when not chewing
- Often not progressive through day
Pain: Denture Base

Clinical Exam

- Discrete area of inflammation or ulceration
- Similar to appearance of occlusal problems
Indicating Media
Applying Pressure Indicating Paste

- Dry denture
- Thin coat with stiff brush
- Leave streaks
More the colour of indicating medium than denture

Correct Amount with Streaks

Insufficient Amount

Too Much w/o Streaks
Prior to Placement

- Ensure damp mucosa
- Spray surface of PIP with air/water
Seat Denture Firmly

- Avoid lips/ridge when inserting
- **Pressure over first molars** (not palate)
- Remove from oral cavity by breaking seal - finger pushing height of vestibule
Denture Base Adjustment

- Relieve pressure spots - large acrylic burs
- Take care with undercuts
  - Looks like burn-through
  - May not require adjustment
Repeat Until Denture Fully Seats

- Relatively uniform contact
- Minimal streaks
- No gross burn-through
Visually Check Peripheries

- Seat denture & border mold
- Flanges should fill vestibule but not be dislodged by manipulation
- If denture dislodges, use PIP to adjust
Pressure Pastes:
Goal: Relatively Even, Minimal Streaks
Avoid Impinging on the Mylohyoid Ridge

A problem if prominent or sharp
Pain: Denture Base

Clinical Exam

- Expect some burnthrough close to undercuts
- Denture should seat easily, otherwise adjust undercut
Pain: Denture Base

Retromylohyoid Overextension

- Sore throat
- Denture moves when swallow
- From retromolar pad, flange should go straight down or angle forward, never backward
Pain: Denture Base

Severe Tissue Undercuts

If the ridge is severely undercut, the flange cannot be placed to the depth of the vestibule, otherwise the denture will not seat or ulceration will occur.
Pain: Denture Base

- Hamular Notches
- Commonly sharp flange
- Sometimes long
- Use PIP
Pain: Denture Base
Clinical Exam

- Indelible sticks: show position but not degree of problem
Pain: Denture Base

- Labial frenum
- Should be thin and deep, not broad
- Round internal and external angles
Denture Pain
CD & RPD

- Occlusion
- Denture base (fit & contour)
- Vertical dimension
- Infection
- Systemic disease/condition
- Allergy (rare)
Denture Pain: Occlusal Vertical Dimension (OVD)

Excessive OVD

- Sore over entire ridge
- Gets worse during day
- Muscle/joint pain
- Dentures ‘click’
- Esthetic complaints: too full
Denture Pain: Occlusal Vertical Dimension (OVD)

Insufficient OVD

- lack of chewing power
- minimal ridge discomfort
- angular cheilitis
- esthetic complaints:
  - chin prominent
  - poor lip support
Denture Pain: Occlusal Vertical Dimension (OVD)

Solution:

- Check physiologic rest position and phonetics carefully to confirm
- Provide time to ensure no adaptation
- Reset teeth as adjustment alone usually not possible
Denture Pain
CD & RPD

• Occlusion
• Denture base (fit & contour)
• Vertical dimension
• Infection
• Systemic disease/condition
• Allergy (rare)
Denture Pain: Infection

- Poor denture hygiene
- Localized (lack of tissue contact)
- Generalized
Denture Pain:
Infection: **Localized**

- Porous denture surface
- Palatal relief chamber
- Voids from chairside relines
- If denture cleanser not rinsed, also get inflammation
Denture Pain: Infection: Generalized

- Patient debilitated
  - diabetes, leukemia, AIDS, etc.
- Drugs
  - chemotherapy, steroids, antibiotics
- Poor nutrition
- Xerostomia
  - drug/radiation induced
  - systemic condition (Sjogren’s)
Denture Pain: Infection: **Generalized**

- **Denture Stomatitis**  
  *(Denture Sore Mouth)*
  - Usually *Candida albicans*
  - Bright red, often no white plaques
  - Usually maxilla
- **Generalized pain**
Denture Stomatitis Treatment

1. Remove source of infection
   - Tissue rest
   - Remove surface acrylic, soft reline
   - Reline frequently
   - Clean with:
     - 2% Sodium Hypochlorite
Denture Stomatitis Treatment

- Remove gross calculus or debris (scalers, lathe wheel)
- Clean denture in ultrasonic
- Soak in sodium hypochlorite redness disappears
Denture Stomatitis Treatment

2. Eliminate infection from tissues
   - Fluconazole 100mg
     - 200mg on 1st day then 100mg, once a day
     - minimum of 2 weeks to prevent relapse
   - Topical Nystatin ointment (less effective)
     - Nyaderm (15, 30 g tubes, 454g jar)
     - Oral suspension
       - Nyaderm (24, 48 ml bottle)
Denture Stomatitis

Treatment

- Sometimes very persistent
- May need to change drug
- May need to use systemic medication
Denture Pain:  
Infection: **Generalized**

**Before Medicating:**
- Improve hygiene
- Consult: present medications
- Address nutrition
Drug Induced Xerostomia

- Antiarrhythmics,
  Anticonvulsants,
  Antidepressants,
  Antihistamines, Diuretics,
  Hypotensives, Muscle
  Relaxants, Narcotics and
  others
- Health history is important
Importance of Saliva

- Retention
- Lubrication
- Removal of debris
- Anti-bacterial, -fungal, -viral
- Taste & digestion
Burning Mouth Syndrome

- Burning mouth (palate)
- Burning tongue, lips
- No clear cut cause
- No uniformly successful tx
Denture Pain CD & RPD

- Occlusion
- Denture base (fit & contour)
- Vertical dimension
- Infection
- Systemic disease/condition
- Allergy (rare)
Systemic Disease or Condition

Comfort/Retention
Diabetes, Ectodermal Dysplasia, Sjogren’s Syndrome, Neoplasm, Vesiculo-Bullous Diseases, Sexually Transmitted Disease (STD), etc.

Coordination
Stroke, Muscle or Neurologic Disorders
Denture Pain
CD & RPD

- Occlusion
- Denture base (fit & contour)
- Vertical dimension
- Infection
- Systemic disease/condition
- Allergy (rare)
Denture Base Allergies

- Extremely rare
- Generalized reaction, wherever base touches tissues
- Usually reaction to free monomer leaching out
- Patch test, as last resort
Denture Base Allergies

- Use porcelain teeth
- Other material for base
  - Triad - Urethane dimethacrylate
  - Non-Nickel containing framework alloy
Denture Looseness
CD & RPD
Denture Looseness
CD & RPD

- Occlusion
- Denture base (fit & contour)
- Poor anatomy
Denture Looseness

CD & RPD: Occlusion

Typical History

Adequate retention initially

Gets worse with time

Clinically:

No discomfort when press firmly on 1st molars
Denture Looseness

CD & RPD: Occlusion

Perpetually Loose Maxillary Denture

- Heavy anterior interferences can cause loosening at posterior
- Tuberosity mucosa grows into space
- Space develops under midline of denture base
Denture Looseness

CD & RPD: Occlusion

Tuberosity

Tilting → Growth → Loss of retention
Denture Looseness
CD & RPD: Occlusion

- Incisors placed too far labially
- Denture displaces lingually.
- Inclined ridge provides no resistance.
Denture Looseness
CD & RPD: Occlusion

Tilting/jigging caused by:

• **Contacts not centered over ridge**
• **Contacts on inclined portion of ridge**
Denture Looseness
CD & RPD: Occlusion

Check centric position (articulating paper)

- even, stable contacts both sides
- stop patient upon initial contact
Denture Looseness

CD & RPD

- Occlusion
- Denture base (fit & contour)
- Poor anatomy
Denture Looseness
CD & RPD: Denture Base

Typical History
Loose/discomfort immediately on insertion

Clinically:
Discomfort when press firmly on 1st molars
Pressure up/outward from lingual of canine causes looseness
Denture Looseness

Denture Base (Mandibular lingual flange too thick)

Flange bulges into tongue space, lifts denture during function.
Denture Looseness

CD & RPD: Denture Base

Short flange

- PIP streaks
- Looks short of vestibule
- Often displaces easily
Denture Looseness
CD & RPD: Denture Base

Long flange
- PIP burnthrough
- Retentive until speaking, eating
- Watch when seating denture
  - Flange touches vestibular depth, denture continues to seat
Denture Looseness

CD & RPD: Denture Base

- If flange too thick
  - Seal may be maintained at rest
  - Pulls during function - drops
- If flange is short or long
  - Displacement as lips or cheeks move
  - Allows air to break vestibular seal
Denture Looseness

CD & RPD: Denture Base

Principle
Always have the patient demonstrate how a denture loosens
Denture Looseness

CD & RPD: Denture Base

Lack of post dam

- Test hypothesis: add compound/functional wax
Denture Looseness
CD & RPD: Denture Base

- Poor base adaptation
- Fulcrum on bony structures
- Test hypothesis: PIP
Denture Looseness
CD & RPD: Denture Base

Periphery terminates on bony structures
- Hard palate
- Zygoma
- External oblique ridge
- Before retromolar pad

- No seal, discomfort
- Eventual resorption
Denture Looseness
CD & RPD: Denture Base

Principle
Denture peripheries always terminate on displaceable soft tissues

Retromolar pads, Vestibular tissues, Vibrating line (nonmoveable soft palate), Hamular notches
Denture Looseness

Denture Base: Coronoid Interference

- Thick flange in retrozygomatic area
- Coronoid gets closer to tuberosity as patient opens or moves jaw to side
- Dislodges maxillary denture
Denture Looseness

Denture Base: Pterygomandibular Raphe

- Raphe from area of hamular notch
- Very tight in some patients
- Easily displaceable, but raphe can displace Mx denture when opening wide
Denture Looseness

**Denture Base: Palatal Cleft**

- In some patients midline soft palate fissure
- Allows air to leak under denture
Denture Looseness

CD & RPD

- Occlusion
- Denture base (fit & contour)
- Poor anatomy
Difficult Denture Patients
Difficult Denture Patients

- Anatomic Problem
- Diagnosis Problem
- Adaptive Problem
- Psychologic Problem
Difficult Denture Patients

Principle
If you can’t determine the problem using indicating medium:
1. Tell the patient
2. Don’t adjust
3. Refer
Difficult Denture Patients

Principle

Never pretend to adjust a denture
Difficult Denture Patients

Adaptive Problem

- Elderly take more time to adapt
- More teeth missing, less adaptation
  (loss of PDM receptors)
Difficult Denture Patients

Adaptive Problem

- Denture may be the cause of the problem
- Patient response may also be part of the problem
Adaptive, Psychologic Problem Prevention: Interview

1. Recognize & **Acknowledge** Problem

- **Open ended questions**
- Let patient identify problem
- If you identify the wrong problem - fail
Adaptive, Psychologic Problem Prevention: Interview

2. Explore and Identify Problems

- Let the patient talk (silence)
- Watch for nonverbal clues
- Short verbal clues may be significant
  (“...and I guess the appearance”)
Adaptive, Psychologic Problem Prevention: Interview

3. Interpret & Explain Problems

Advise patient of your view
Adaptive, Psychologic Problem Prevention: Interview

4. Offer a Solution

- If chance denture will not be a success, state at outset
- If sense trouble, refer or address immediately
- If suggest a therapist, patient will run or say yes
Adaptive, Psychologic Problem Prevention: Interview

- Remember: Most patients are not problem patients
- 80-85% are satisfied
- Better adaptation than eyeglass wearers
Adaptive, Psychologic Problem

Rule out objective findings
Chart findings objectively
Overview

- Deal with denture problems systematically
- Use a differential diagnosis
- Address probable causes until problem eliminated
- If can’t identify problem, refer
References

- Dalhousie continual education