

DENT ECHO

Geriatric Dentistry • Management of a Complicated Patient



Case Presentation – Sarah Dirks, DDS
Content Facilitator – Jeff Hicks, DDS

4/15/21

Goals for Today's ECHO

1

Gain new knowledge to improve outcomes for your geriatric patients

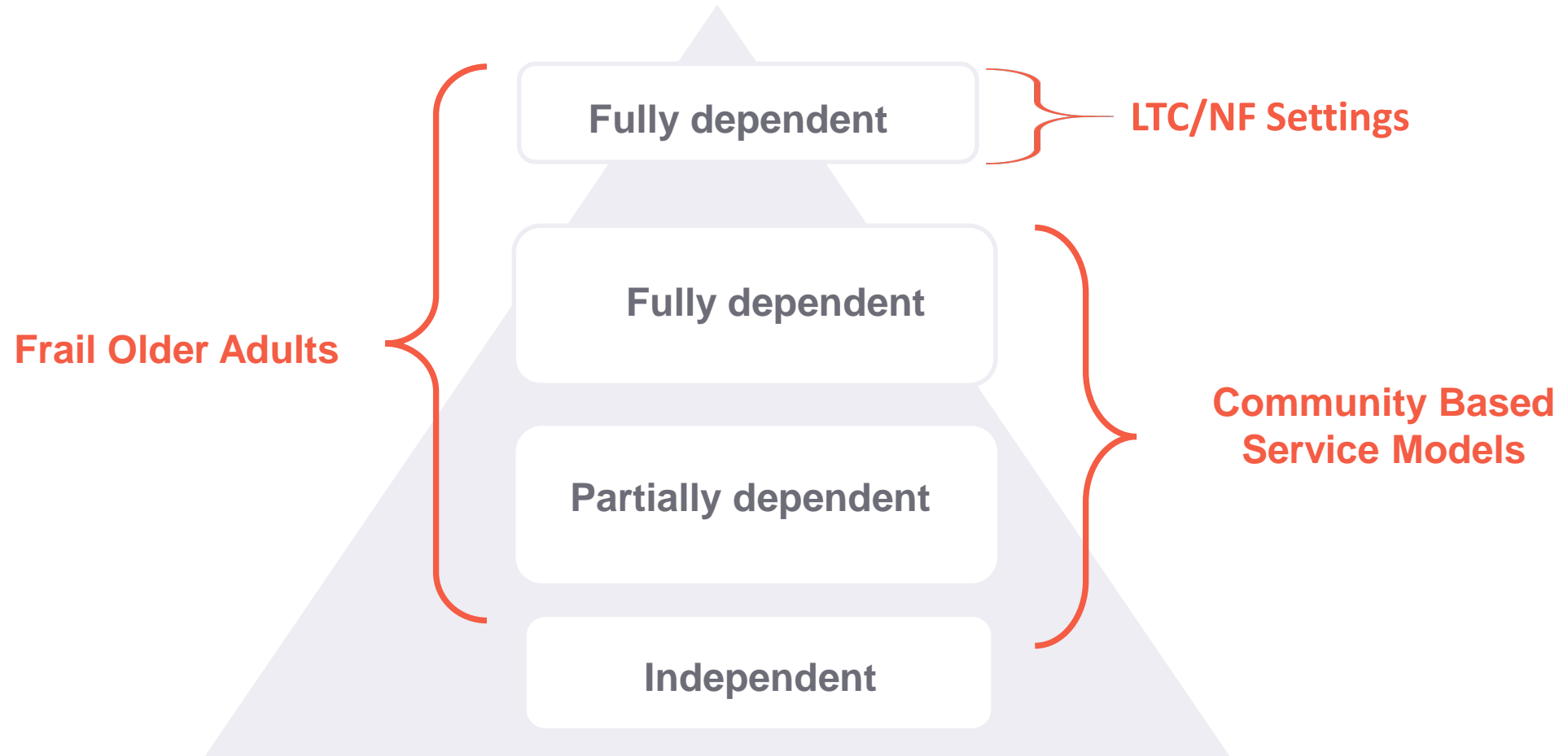
2

Recognize your existing ability to manage complicated geriatric patients

3

Review evidence-based best practices used in this geriatric case study

The Majority of Frail Older Adults – “Age In Place”





Key Learning Points in Geriatrics

Framework for Complicated Patients

- 1) **Multidimensional assessment supports your framework.**
- 2) Determine goals before determining treatment options.
- 3) Medical stability is relative to your proposed treatment.
- 4) Treatment specifics must have a favorable risk/benefit:
 - Be based on the totality of circumstances, not just teeth
 - Be dynamic and subject to modifications as needed



Multidimensional Assessment

- **Chief Complaint(s) – *Often multiple sources***
 - Patient, family members, caregivers, nursing staff, social worker, etc.
 - Patient may not be a reliable historian
- **Medical Assessment**
 - History & physical, diseases, medications, allergies, recent changes, upcoming surgeries, etc.
- **Social Determinants of Health – *Key Role in Geriatrics***
 - Living situation, caregiver support, finances, education, mental health, transportation, etc.
- **Dental Assessment**
 - Self care, dexterity, caregiver support, etc.



Key Learning Points in Geriatrics

- 1) Multidimensional assessment supports your framework.
- 2) **Determine goals before determining treatment options.**
 - Phase I Goal – Address CC, emergency, or urgent needs**
 - Phase II Goal – Stabilize dentition**
 - Phase III Goal – Optimize quality of life**
- 3) Medical stability is relative to your proposed treatment.
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Determine Goals

Before making a treatment plan & for framing conversations

Phase I Goal -

Address CC, Emergency and/or Urgent Needs

Benefits:

- ✓ “Save the tooth”
- ✓ Relief from pain, local infection, swelling
- ✓ Reduce the risk of aspiration pneumonia
- ✓ Reduce risk of systemic infection/hospitalization
- ✓ Reduce the risk of death
- ✓ Maintain or return to daily nutritional needs



Determine Goals

Before making a treatment plan & for framing conversations

Phase II Goal

Stabilize Dentition

Benefits:

- ✓ Lower risk of infection, pain, aspiration
- ✓ Stabilize and/or improve periodontal disease
- ✓ Maintain and/or attempt to improve PO nutrition



Phase II Goal: Stabilize Dentition

Frame Communication by Focusing on Benefits

✓ Benefit - Lower risk of infection, pain, aspiration

- Full mouth debridement
- Extraction of teeth that are not serviceable*
- Stabilization of caries

✓ Benefit – Stabilize or improve periodontal status

- Personalized OHI which includes care givers
- SRP X 4 with local anesthesia
- 1x month perio maintenance

✓ Benefit - Maintain and/or improve PO nutrition

- Keep salvageable teeth serviceable *
- Keep opposing teeth, when possible, to assist in mastication
- Stabilization of rampant caries



Phase II Goal: Stabilize Dentition

Framework for Communication

Stabilization of Rampant Caries? Preventing a Denture Cripple?

- Use standard restorative techniques when possible
 - Packing cord, minimally invasive, repair versus replace
- Use **ART** on **accessible** teeth/surfaces
 - Atraumatic restorative technique
- Use **SDF** on **non accessible** teeth/surfaces
 - Silver diamine fluoride





D1354: Interim caries arresting medicament application

Conservative tx of an active, non-symptomatic carious lesion by topical application of a caries arresting or inhibiting medicament and without mechanical removal of sound tooth structure.



Silver diamine application





Randomized clinical trial on arresting dental root caries through silver diamine fluoride applications in community-dwelling elders.

Li R, Lo ECM, Liu BY, Wong MCM, Chu CH. J Dent. 2016;51:15–20.

- **Objectives:** To investigate the effectiveness of silver diamine fluoride (SDF) solution application in arresting dental root caries and to assess the color of arrested caries lesions.
- **Methods:** 83 elders with 157 root surfaces with active caries lesion were randomly allocated into 3 groups: Gp1 (placebo control)-annual application of soda water; Gp2-annual application of SDF solution; Gp3-annual application of SDF solution immediately followed by potassium iodide (KI) solution. Status of root surfaces was assessed every 6 months.
- **Results:** After 30 months, 100 (64%) of the included root caries lesions were reviewed. The arrest rates of root caries were 45%, 90%, and 93% in Gp1 (control), Gp2 (SDF) and Gp3 (SDF/KI), respectively. Pairwise comparisons showed elders in the control group had a lower proportion of the active root caries changed to arrested and the proportions of root caries being arrested in the SDF and SDF/KI groups were not significantly different.
- **Conclusions:** Application of SDF solution, with or without application of KI afterwards, is effective in arresting root caries among elders in a water fluoridated area. In the long term, blackening of arrested root caries is not reduced by immediate application of KI after the application of SDF.



Focus on Goals

Before making a treatment plan & for framing conversations

Phase III Goal

Optimize Quality of Life Given Totality of Circumstances

Specific treatment plan to be determined after Phase I, II

- More extractions?
- Fixed restorative?
- Tooth replacements? Implants?
- Removable prosthesis?
- Periodontal maintenance schedule?



Key Learning Points in Geriatrics

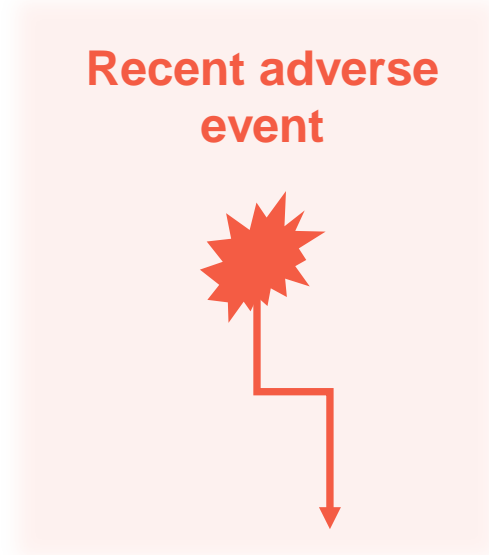
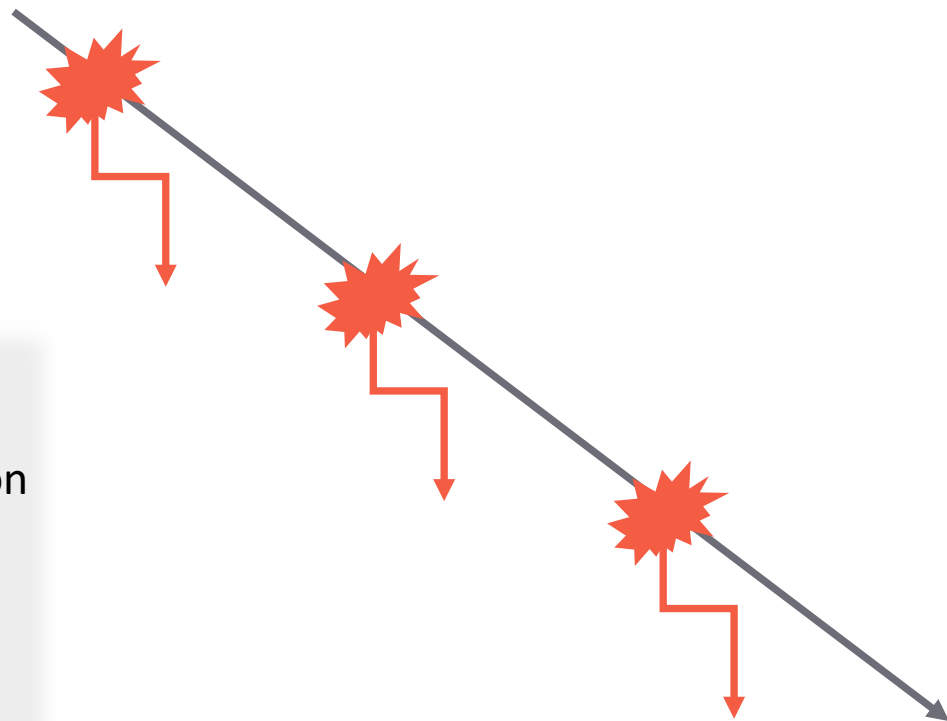
For Complicated Patients

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The Aging Process – Inevitable Decline

A Window of Opportunity?

50 year old



Examples:

- ✓ Recent fall
- ✓ Recent hospitalization
- ✓ Recent surgery
- ✓ Sudden weakness
- ✓ Sudden confusion
- ✓ Loss of a caregiver
- ✓ Loss of a spouse

100 year old



Medical Stability Relative to Proposed Tx

Weighing the Risk/Benefit

Risk to the Patient of No Treatment?

- Elevated risk of death
- Elevated risk of systemic infection
- Elevated risk of aspiration of blood, debris
- Elevated risk of aspiration pneumonia
- Pain, swelling, infection
- Diet decline
- Etc.



Medical Stability Relative to Proposed Tx

Weighing the Risk/Benefit

Risk(s) with Treatment?

- Risk of adverse event(s)
- Risk of medical emergency
- Risk of death
- Risk of injury
- Risk of aspiration during treatment
- Risk of pain, swelling, bruising
- **Risk of bleeding due to an antithrombic**





Myths of dental surgery in patients receiving anticoagulant therapy

Wahl MJ. J Am Dent Assoc. 2000;131:77-81

- **Background:** When patients receiving continuous anticoagulant therapy are receiving dental surgery, a decision must be made whether to continue or interrupt the anticoagulant therapy.
- **Results:** Of more than 950 patients receiving continuous anticoagulant therapy (including many whose anticoagulation levels were well above currently recommended therapeutic levels) who underwent more than 2,400 surgical procedures, only 12 (< 1.3 percent) required more than local measures to control hemorrhage. Only three of these patients (< 0.31 percent) had anticoagulation levels within or below currently recommended therapeutic levels. Of 526 patients who experienced 575 interruptions of continuous anticoagulant therapy, five (0.95 percent) suffered serious embolic complications; four of these patients died.
- **Conclusions:** Serious embolic complications, including death, were three times more likely to occur in patients whose anticoagulant therapy was interrupted than were bleeding complications in patients whose anticoagulant therapy was continued (and whose anticoagulation levels were within or below therapeutic levels). Interrupting therapeutic levels of continuous anticoagulation for dental surgery is not based on scientific fact, but seems to be based on its own mythology



Antiplatelet therapy and exodontia

Willem H. Schreuder, DMD, MD, Zachary S. Peacock, DMD, MD, FACS JADA November 2015 Volume 146, Issue 11, Pages 851–856

- **Background:** The authors reviewed the literature, focusing on the indications and mechanisms of antiplatelet therapy and the perioperative management of patients taking these agents who require exodontia or other dentoalveolar surgery.
- **Results:** Dentists making management decisions regarding patients taking antiplatelet therapy should consider the patient's risk of experiencing perioperative hemorrhage against the risk of experiencing complications associated with thromboembolic events. The risk of perioperative bleeding complications is low for patients taking single or dual antiplatelet therapy. Intraoperative and postoperative bleeding can be controlled with local hemostatic measures.
- **Conclusion:** For patients taking antiplatelet medication, bleeding risk for exodontia is generally lower than the risk of experiencing thromboembolic events owing to cessation of therapy.
- **Practical Implications:** Dentists can safely complete exodontia in patients who continue taking antiplatelet therapy. The dentist should consult the patient's prescribing physician before considering altering the patient's antiplatelet therapy regimen.



Risk/benefit: Routine Dental Extractions & Antithrombotics

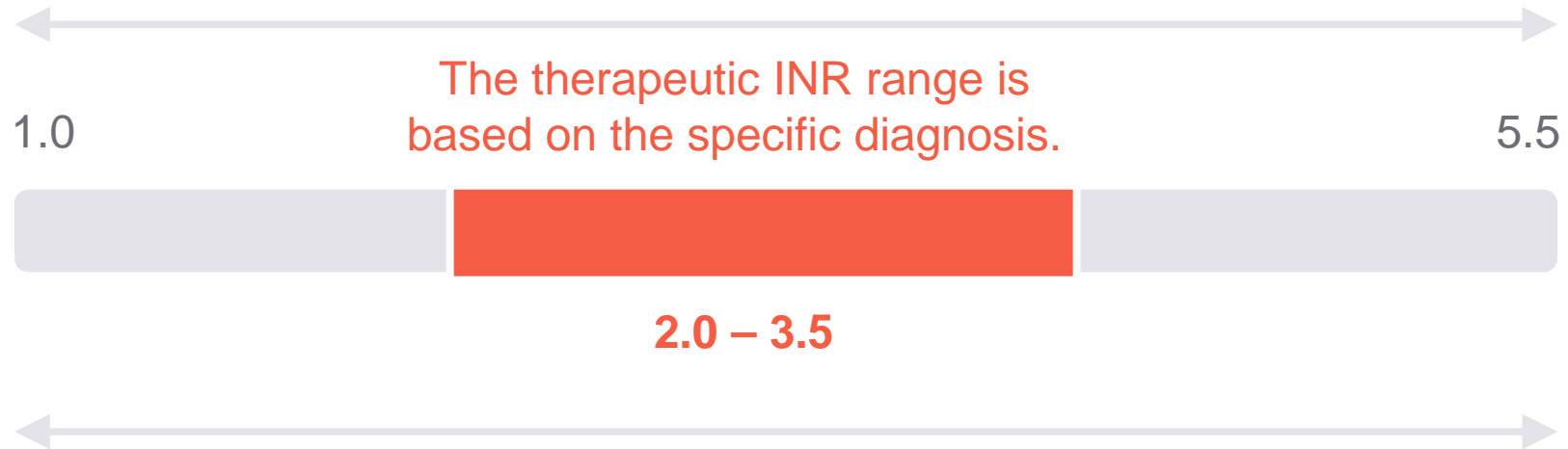
- Drug holiday may increase thromboembolic risk & precipitate an adverse event.
- Thromboembolic events, (blood clots) including fatalities have been reported in the literature *after antithrombotic withdrawal*.
- No single report of uncontrollable bleeding when *routine dental procedures* have been carried out without an antithrombotic holiday.
- *Reports of serious bleeding are associated with systemic diseases.**
- Summary of current recommendation in the dental literature regarding warfarin:
 - Maintain the patient's therapeutic INR during dental surgery.
 - Modify treatment as needed.
 - Control bleeding using local measures.

Multiple INR Meters Available

- Coaguchek, Coag-sense, etc.
- YouTube tutorial videos
- 21 gauge lancet



Risk Assessment: Coumadin (Warfarin)

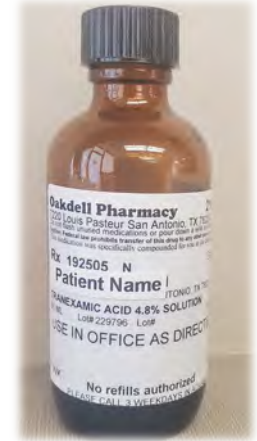




Potential Inconvenient Bleeding

Minimize Bleeding Using Bleeding Risk Protocols

- During surgery and after surgery
- Single tooth versus multiple teeth
- Use of local hemostatic measures
 - Pressure with damp gauze
 - Sutures – silk versus resorbable
 - Collaplug, Surgifoam, Gel foam
 - Tranexamic acid, topical thrombin
 - Post-surgical instructions
 - Compliance with post surgical instructions





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Case Study - Mrs. M

87 year old Hispanic female living in an assisted living setting

Multidimensional Assessment



Multidimensional assessment for Mrs. M

Mrs. M - Addressing the Multiple Chief Complaint(s)





Chief Complaint

Mrs. M is unable to provide chief complaint, quit speaking a week ago

Director of Nursing (DON) Provided the CC:

- *“Family wants her to be seen.”*
- *“Her top lip isn’t moving.”*
- *“She stopped talking and she won’t open her mouth.”*
- *“We had to put her on a pureed diet.”*



Multidimensional Assessment

Mrs. M - Medical information = Most significant findings

- No known drug allergies
 - Vitals
 - BP = 100/62, Pulse = 64
 - Pulse ox = 94%
 - Type 2 Diabetic, A1c = 8.5
 - Hypertension, A-fib
 - Stage 1 Alzheimer disease
- Scoliosis
 - Hearing loss, GERD
 - No recent hospitalization
 - No upcoming surgeries
 - PCP ruled out TIA or stroke
 - Communication deficit



Multidimensional Assessment

Mrs. M – Medications = Most significant findings

- Warfarin (anticoagulant)
 - Target INR: 2.0-3.0
- Furosemide (diuretic)
- Metoprolol (selective B1) blocker
- Atorvastatin (anticholesterol)
- Metformin (antidiabetic)
- Acetaminophen (analgesic)
- “Others”



Multidimensional Assessment

Mrs. M - Social Determinants of Health

- Covid restrictions at the assisted living
- Mrs. M is not her own responsible party
- Her medical POA is different from her financial POA
- Unable to provide her own adequate self oral care
- Mrs. M is not combative but refuses to open her mouth
- Confined to a wheelchair/severe kyphosis
- Unable to chew for the last week
- Previous to “adverse event” was on a soft mechanical diet



Multi-dimensional Assessment

Mrs. M - Dental – Extra and Intra Oral Findings

- Unable to speak, squeezes her mouth closed
- Severe halitosis – “infection odor”
- She pushes the mouth prop out of her mouth
- Upper lip was “stuck” – her upper lip was immovable
- No bruising noted but upper lip slightly swollen
- Unable to access mouth, unable to visualize her teeth
- Resisted all oral manipulation



Modification of Plan Required

Multiple Providers + Multiple Attempts = Failure

- CNAs who work well with her were recruited.
- Still unable to visualize mouth.
- Orders Written: (not Rx's)
 - Give 1000 mg Amox stat.
 - Give Amox 250 mg TID for 10 days.
- Reschedule Mrs. M exam for 24 hours later.
- Family to be present at next appointment.



Follow up exam - 24 hours later

- Topical anesthetic placed
 - 2.5% lido/2.5% Prilocaine
- Local anesthetic used
 - 4% Citinest Plain
 - Infiltrated maxillary anteriors
- Anesthetic effect allowed oral manipulation
- Mrs. M now able to tolerate mouth prop
- Lip mucosa locked in between teeth





Dental Assessment

Mrs. M - Continued

- Generalized severe gingivitis
- Friable gingival tissues, heavy gingival bleeding
- Generalized moderate/severe periodontal disease
- Generalized mild to moderate bone loss
- Mucosal trauma + hyperplastic tissues + tissue tags
- All remaining teeth have a Class I – Class III mobility
- Multiple periapical + periodontal radiolucencies



Dental Assessment

Mrs. M - Continued

- Retained root tips
- Recurrent caries under crowns
- Rampant decay – all remaining teeth
- Severe dry mouth
- Dried marginal purulence
- Supra and subgingival calculus
- Debris, plaque, food impacted between all her teeth





Additional Information

Radiographic Assessment

Periapical radiograph - #8

- Periapical/periodontal radiolucency
- Failing root canal therapy/internal resorption
- Class III mobility, post moving within tooth?
- Cracked tooth?
- Vertical and horizontal bone loss
- Acute exacerbation of chronic periodontal and pulpal infection





Additional Information

- She is wearing lipstick.
- Good eye contact during conversation.
- Cooperation is good – no resistance.
- She ate a soft mechanical diet for breakfast.
- Able to now speak softly and move lip, converses minimally.
- She is still an unreliable historian and offers no insight.



Case Study Discussion

Content Facilitator - Dr. Jeff Hicks

- 1) Does anything stand out to you for this case?
- 2) What are the logistical challenges?
- 3) What are the clinical challenges?
- 4) What are the key learning points we should spend time on?



Case Study Discussion – Mrs. M

Phase I Goal: Address Emergency Care

- What is the goal of emergency care for Mrs. M?
- What determinants of social health must be considered?
- Mrs. M's family & the director of nursing want a warfarin drug holiday.
- Given the totality of circumstances, is there a favorable risk/benefit to extract #8?
- How would you proceed?



Case Study Discussion – Mrs. M

Phase I Goal: Emergency Care Completed.

- Extraction #8 w/o incidence w/ local measures + INR

Phase II Goal: Stabilization of Dental Collapse

- Mrs. M's daughter wants all of her mother's teeth extracted.
- What treatments offer the most favorable risk/benefit given the totality of circumstances?
- What is your recommended treatment options?
- How would you proceed?

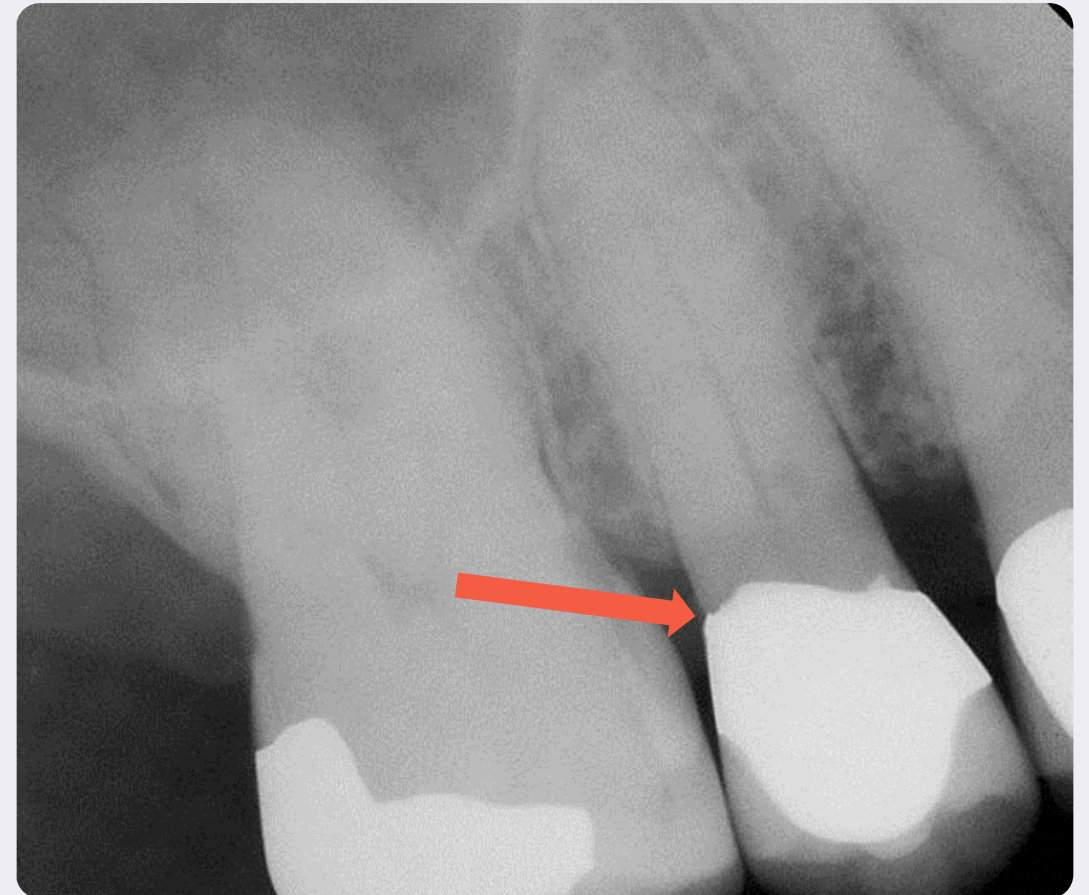




Risk/benefit of treatment options for tooth #4?

#4 – nonsymptomatic, vital pulp, deep lingual caries

- Extraction?
- Redo crown?
- Extraction + bone graft + implant?
- Resin/glass ionomer crown repair?
- SDF = silver diamine fluoride?
- ART = atraumatic restorative tx?





Case Study Discussion – Mrs. M

Phase I Goal: Address Emergency Care

Phase II Goal: Stabilization of Dental Collapse

Phase III Goal: Optimize Quality of Life

- How do Mrs. M social determinants of health affect options?
- How can completion of Phase I and II provide more insights?
- Is Mrs. M a good candidate for fixed restorative?
- For a removable prosthesis? Plan for future tooth loss?
- How would you proceed?



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