

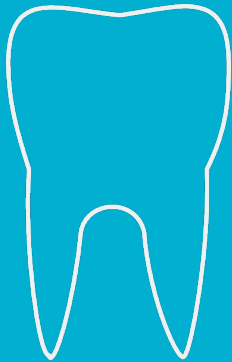
Odonto- and Onco-: A presentation of two -ologies

Evidence Based Dentistry Rounds
Specialty: Collaborative Care

Group: 10

Team: A1

Date: 11/11/2020



Rounds Team

- **Group Leader:** Dr. Yray
- **Specialty Leader:** Dr. Khaled and Dr. Yale
- **Project Team Leader:** Scarlett Young
- **Project Team Participants**
 - **D3:** Olivia Nguyen
 - **D2:** Lucas Peppler
 - **D1:** Eddy Park

Patient

- Age: 68 yo
- Gender: Female
- Ethnicity: Caucasian
- Chief Complaint: “My tooth broke, not giving me any pain.”

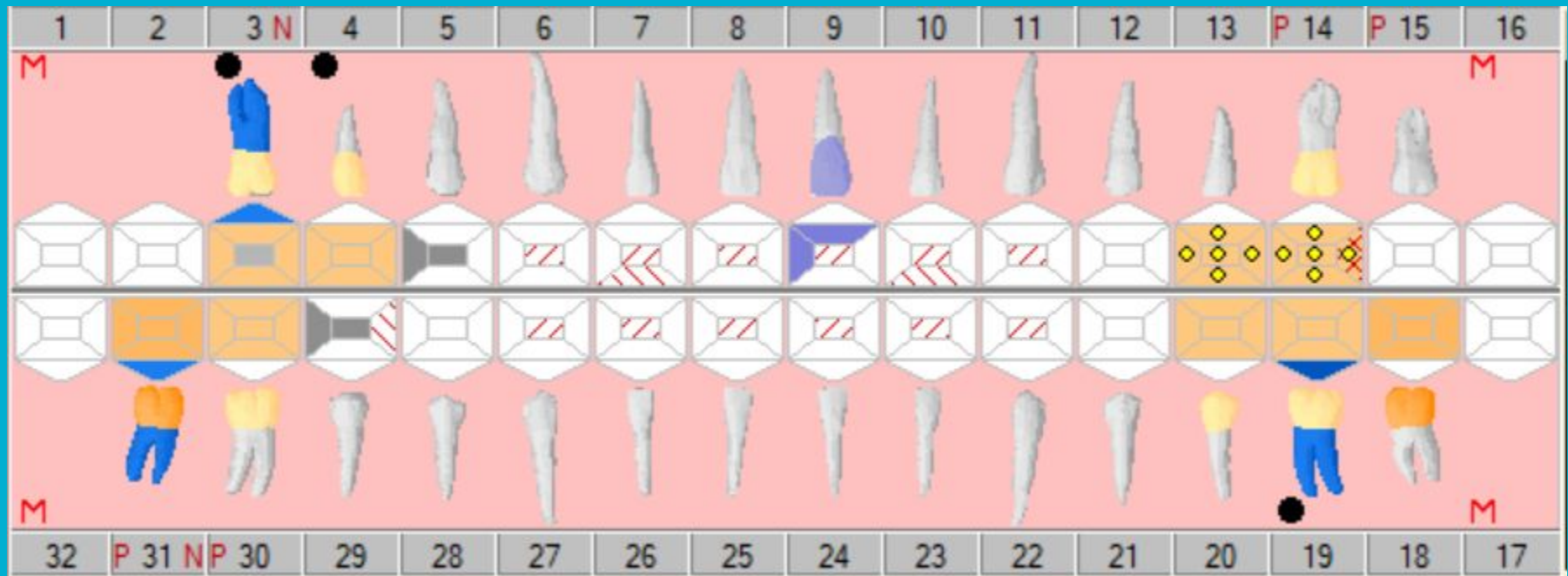
Medical History

- Non-Hodgkins Lymphoma
 - Follicular lymphoma
 - Stopped chemotherapy in 2017
 - Check-up with her oncologist every 6 months (Next appointment 12/2020)
- Osteoarthritis and GERD (after spicy meals)
- Allergies: Seasonal allergies, metal jewelry (nickel/chrome), shrimp (rxn: itchy throat), Arithromycin (rxn: itching)
- Medications: Sulfamethoxazole-trimethoprim (400-80 mg dose 1x daily)

Dental History

- Caries excavation
- Core build-up
- RCT
- Crowns
- Restorations
- Crown lengthening
- Biopsy
- CBCT & x-rays

Odontogram



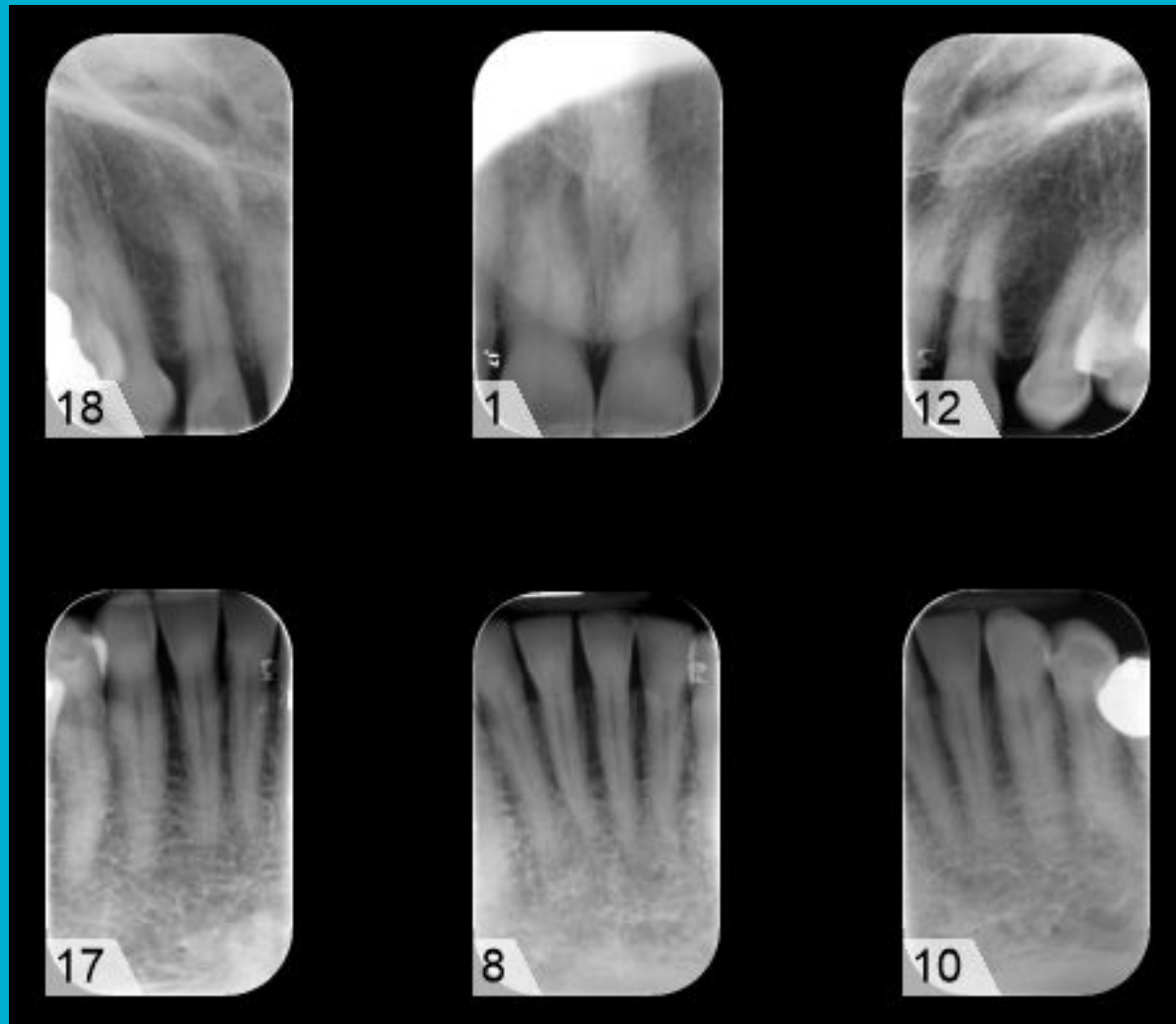
Radiographs



Radiographs



Radiographs



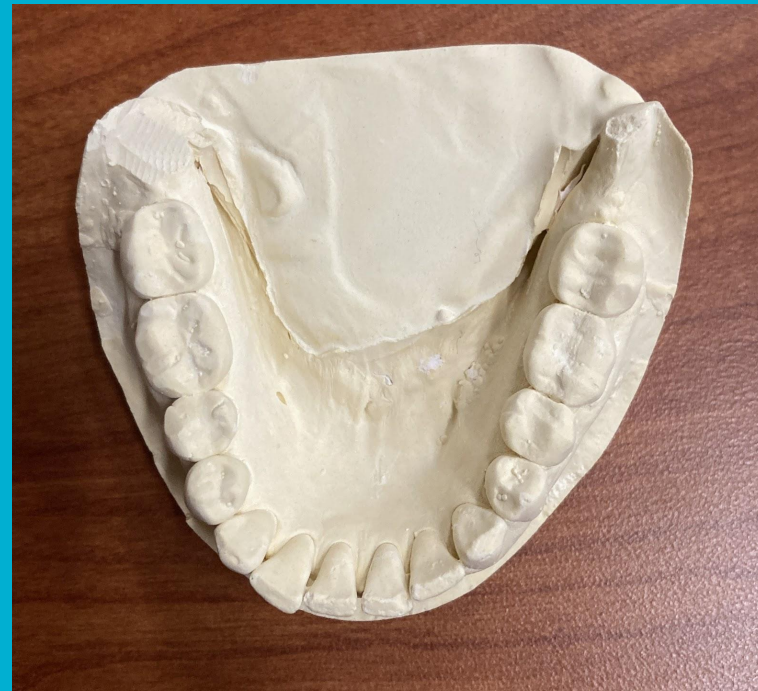
Radiographic Findings

- PARLs #3, 4, 19
- Radiographic bone height <2mm
- Recurrent decay/defective restoration on D of #14

Clinical Findings



Clinical Findings



Clinical Findings

- POE and recall with previous student 9/24/19
 - PARL on #4, fordyce granules on buccal mucosa, 2x2mm apthous ulcer on right side of maxillary posterior ridge, fracture lines on mesial of both #13 and #29
- ACC with Dr. Yray 6/24/20
 - Fractured palatal cusp of #13, amalgam intact
 - Discussed with patient need for new restoration and assigned to me
- Transfer exam, POE and recall 9/8/2020
 - Incipient caries L of #7, #10 L
 - Recurrent decay/defective restoration D of #14
 - Abrasion on incisal of #6, 7, 8, 9, 10, 11, 22, 23, 24, 25 ,26, and 27
 - Fractured lingual cusp on #13

Specific Findings

- Overdue recall
 - Great oral hygiene - all PD < 3mm besides ML of #15 - 4 mm (pseudopocket/inflammation)
- #13 - Fracture
 - take out amalgam, caries excavate, core build-up, crown
- #14 - Defective restoration and recurrent decay on D
 - History of monitoring open margin since 9/2018
 - Clinical “stick” and discussed with patient about we could monitor but best treatment option is crown removal, caries excavation, core build-up and new crown

Perio Chart

																MOBILITY
																FURCA
		P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P		PLAQUE
																BOP
		5 5 5	5 5 5	5 5 5	4 4 4	5 5 5	5 5 5	4 4 4	4 4 4	5 5 5	5 5 5	6 6 6	5 5 5	5 5 5		MGJ
		4 2 3	4 2 4	3 2 4	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 4	3 2 3	3 2 4	4 3 4	3 3 3		CAL
		3 1 2	3 1 3	2 1 3	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 3	2 1 2	2 1 3	3 1 2	2 1 2		P.D.
		1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 2 2	1 2 1		FGM
1	2	3N	4	5	6	7	8	9	10	11	12	13	14	15	16	
		1 2 1	1 2 1	1 2 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1		1 2 2	1 1 1		FGM
		3 2 3	3 2 3	3 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 3	4 2 3		P.D.
		4 4 4	4 4 4	4 3 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	2 1 2	3 3 5	5 3 4		CAL
																MGJ
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		3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3		CAL
		2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2		P.D.
		1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1		FGM
32	31N	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
		2 2 2	2 2 2	1 2 1	1 2 1	1 2 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 2 1	1 2 1		FGM
		3 2 3	3 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 2	2 1 3		P.D.
		5 4 5	5 3 4	3 3 3	3 3 3	3 3 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 2 3	3 3 3	3 3 4		CAL
		5 5 5	5 5 5	5 5 5	4 4 4	4 4 4	4 4 4	3 3 3	4 4 4	4 4 4	5 5 5	5 5 5	5 5 5	5 5 5		MGJ
																BOP
		P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P	P . P		PLAQUE
																FURCA
																MOBILITY

Diagnosis

- Perio: I: Gingivitis
- Restorable #13 and #14
 - Good prognosis

Problem List

- Incipient caries/watches
- Abrasion
- Fractured tooth
- Defective restoration
- Recurrent decay
- PARLs

Clinical Question

- How would the patient's case be managed by a dental provider if she was getting chemotherapy treatment for Non-Hodgkins Lymphoma *or if patient was terminal?*

D1 Basic Science: What are the types of lymphocytes and their functions?

- **What are lymphocytes?**
 - Immune cells involved in the adaptive immune response
 - Slow to develop
 - Antigen specific
 - Create memory for recurrent infections
 - Arise from stem cells present in bone marrow
 - Two main types of lymphocytes
 - T cells
 - B cells

D1 Basic Science: T cells vs. B cells

- **T cells**

- CD4+ T cells

- T helper 1 cells: Cytokine release (IFN gamma, IL-2)

- IFN gamma (Interferon γ): Macrophage activation

- IL2 (Interleukin-2): CD8+ T cell activation \rightarrow cytotoxic T cells

- T helper 2 cells: Cytokine release (IL4, IL5)

- IL4, IL5 (Interleukin 4 and 5): B cell activation

- CD8+ T cells

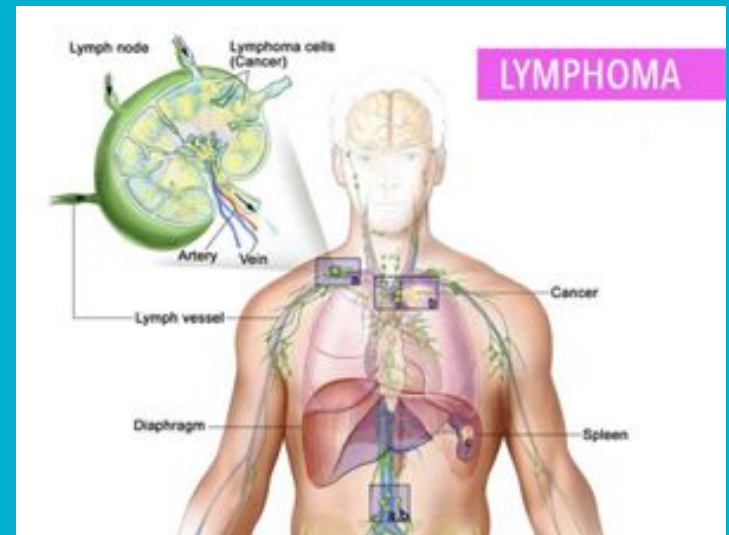
- Cytotoxic T cells: Eliminate virally infected host cells

- **B cells**

- Plasma cells: Antibody formation and release

D2 Pathology: What is Non-Hodgkin's lymphoma?

- Abnormal lymphocyte proliferation in nodes and extra nodal sites resulting in neoplasm
- Hodgkin - only B cell origin, Reed Sternberger cells
- Mostly older adults over 55
- Classified by cell of origin
 - B cell, T cell, NK cell
 - B cell more common - different clinical manifestations
- Classified by rate of progression
 - Low Grade, High Grade



<https://www.mayoclinic.org/diseases-conditions/lymphoma/symptoms-causes/syc-20351727>
<https://www.cancer.gov/types/lymphoma/hodgkin/hodgkin-treatment>
<https://www.cancer.gov/types/lymphoma/non-hodgkin/non-hodgkin-treatment>

D2 Pathology

- Follicular lymphoma most common low grade
 - Slow growing
 - Doesn't respond well to chemo
- Diffuse Large B Cell Lymphoma most common high grade
 - Fast growing
- HIV, Epstein Barr Virus
 - Higher risk

Abed, H., Nizarali, N., & Burke, M. (2019). Oral and Dental Management for People with Lymphoma. *Dental Update*, 46, 133–150.
<https://doi.org/10.12968/denu.2019.46.2.133>

Napeñas, J. J. (2017). *Oral Manifestations of Systemic Diseases, an Issue of Atlas of the Oral & Maxillofacial Surgery Clinics, E-Book*. Elsevier Health Sciences.

D₃ PICO

- Clinical Question: How would the patients case be managed by a dental provider if she was getting chemotherapy treatment for her Non-Hodgkin's Lymphoma?

PICO Format

**P: Patients with Non-Hodgkins
Lymphoma**

I: Chemotherapy treatment

C: No treatment

O: Differ in treatment planning

PICO Formatted Question

In patients with Non-Hodgkins lymphoma, how does the dental treatment plan differ in patients seeking chemotherapy versus no treatment?

Clinical Bottom Line

How would the treatment plan be different?

- More prophylactic treatment
- Questionable teeth prognosis - extract
- Would we do Stage II?

Search Background

- **Date(s) of Search:** November 2 - 6th,
- **Database(s) Used:** PubMed
- **Search Strategy/Keywords:** chemotherapy, lymphoma, oral side effects, oral mucositis, oral infection, dental management

Search Background

- **MESH terms used:** chemotherapy, oral complications, osteonecrosis of the jaw, oral mucositis

Article 1

- **Citation:** Pouloupoulos A, Papadopoulos P, Andreadis D. Chemotherapy: oral side effects and dental interventions. A review of literature. Stomatological Dis Sci 2017;1:35-49.
- **Study Design:** Literature review
- **Study Need / Purpose:** To describe the management of dental treatment of patients undergoing chemotherapy and the dentist's contribution to that treatment

Article 1 Synopsis

- **Dental intervention before chemotherapy:**

- periodontal and endodontic evaluation
- prognosis of existing restorations
- dental inflammations?
- oral hygiene
- prophylaxis, chlorhexidine

- **During chemotherapy:**

- extractions postponed (unless emergency)
- no traumatic dental procedures or even minimal surgical procedures
- dentures should be removed if they are minimally traumatic
- possible complications of chemo: xerostomia, mucositis

- **After chemotherapy:**

- remove infection
- restore esthetics
- restore functional impairment
- regular check ups
- no extractions/invasive procedures for at least 1 year (if it cannot be avoided, patient needs to be on antibiotics 2 days before procedure and for 7-15 days following)

Article 1 Synopsis

- **Conclusions:** Need good communication with oncologist to determine course of action. Dental care must be taken care of before chemotherapy. Once it starts, all treatments are postponed to reduce risk of osteonecrosis.

Article 1 Selection

- Relevance to PICO question and clinical bottom line
- Applicability to patient: #13 fracture, #14 recurrent decay, PARLs #3, 4, 19 must be taken care of before chemo

Article 2 Citation

- **Citation:** Mancheno Franch A, Gavalda Esteve C, Sarrion Perez MG. Oral manifestations and dental managements of patients with leukocyte alterations. J Clin Exp Dent. 2011;3(1):e53-9.
<http://www.medicinaoral.com/odo/volumenes/v3i1/jcedv3i1p53.pdf>
- **Study Design:** Literature review
- **Study Need / Purpose:** To review the main side effects affecting the oral health of patients with leukocyte alterations

Article 2 Synopsis

- Non-Hodgkin's lymphoma oral lesions:
 - erythematous, painless enlargement, with surface ulceration secondary to trauma
 - lesions in maxilla more commonly involved than mandible
- Radiographic findings: diffuse bone destruction, loss of lamina dura
- Teeth loosening and paresthesia

Article 2 Synopsis

- **Conclusions:** main concerns in dental treatment of patients with leukocyte malignancies are a tendency to bleed, increased risk of infections, risk of developing osteonecrosis of the jaw, anemia
- **Limitations**

Article 2 Selection

- Relevance to PICO question
- **Applicability to patient:** regular prophylaxis and maintaining good oral hygiene eliminates oral sources of infection and reduces the risk of infections

Article 3 Citation

- **Citation:** Abed H, Nizarali N, Burke M. Oral and Dental Management for People with Lymphoma. DOI: 10.12968/denu.2019.46.2.133
- **Study Design:** Literature review
- **Study Need / Purpose:** To describe the recommended oral and dental management for people with lymphoma

Article 3 Selection

- Relevance to PICO question
- **Applicability to patient:**

Levels of Evidence

- ☐ **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)
- ☐ **1b** – Individual RCT
- ☐ **2a** – Systematic Review of Cohort Studies
- ☐ **2b** – Individual Cohort Study
- ☐ **3** – Cross-sectional Studies, Ecologic Studies, “Outcomes” Research
- ☐ **4a** – Systematic Review of Case Control Studies
- ☐ **4b** – Individual Case Control Study
- ☐ **5** – Case Series, Case Reports
- ☒ **6** – Expert Opinion without explicit critical appraisal, Narrative Review
- ☐ **7** – Animal Research
- ☐ **8** – In Vitro Research

Strength of Recommendation Taxonomy (SORT)

<input type="checkbox"/>	A – Consistent, good quality patient oriented evidence
<input checked="" type="checkbox"/>	B – Inconsistent or limited quality patient oriented evidence
<input type="checkbox"/>	C – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

Conclusions: D3

In determining how to proceed with a patient with Non-Hodgkin's lymphoma about to undergo therapy, it is important to maintain communication with the patients oncologist and complete all dental treatments prior to chemo and maintain excellent oral hygiene.

Stage I treatment (fillings) are possible during chemo but preferable to do beforehand.

Questionable teeth must be extracted. Stage II treatment (crowns) should be postponed.

Conclusions: D4

- **Dental Clearance**

- Important for pre-chemotherapy treatment
- 2-4 weeks prior to chemo
- Take care of questionable teeth (RCT, EXT, caries excavation, etc)
- Reinforce oral hygiene
- Discuss long lasting oral side effects and their effects

- **Collaborative Care**

- Discuss treatment with oncologist, PCP, and other professionals about patient management

- **Terminal Outlook**

- No treatment or get patient to function/comfort
- Recalls to improve quality of life
- Follow patient requests

Conlusions: D4

“Time will tell what should have been the best option” - Dr. Yale

Discussion Questions

- App References/Manual?
 - Dr. Yale

THANK YOU