MANAGING THE ANXIOUS PATIENT

EVIDENCE BASED DENTISTRY ROUNDS

BEHAVIORAL SCIENCE

GROUP 8B-2

9/30/2020

ROUNDS TEAM 8B-2

- Group Leader: Dr. Toburen
- Specialty Leader: Dr. Urtz
- Project Team Leader: Samantha DeRidder
- Project Team Participants: D1- Nicole Peters; D2-Sophie Altenburg; D3-Austin Smith

PATIENT

- 60 years old
- Female
- Caucasian
- “I have been a patient at the school for a long time, and I want my implant.”

MEDICAL HISTORY

- Hx of breast cancer and double mastectomy
- Current & past:
  - Lymphedema on patient right arm
  - Medications: Anastrazole
  - Treatment considerations: BP must be taken on patient left arm

CORAH

Change Date 09/12/2019 Last Appr. Toburen, William Approve

1.Medical History | 2.Dental History | 3.Disabilities | 4.CORAH Dent Anxiety | 5.Pre-Doc Clinic

Form Question	Answer	Date
1. If you had to go to the dentist tomorrow, how would you feel about it?	1. Look forward to it	06/08/2017
2. When you are waiting in the dentist's office for your turn in the chair, how often do you feel?	2. A little uneasy	06/08/2017
3. When you are in the dentist's chair waiting while he/she gets the drill ready to begin working on your teeth, how do you feel?	1. Relaxed	06/08/2017
4. You are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist is getting out the instruments which he/she will use to scrape your teeth around the gums, how do you feel?	1. Relaxed	06/08/2017
5. Notes		
6. Total	5	06/08/2017

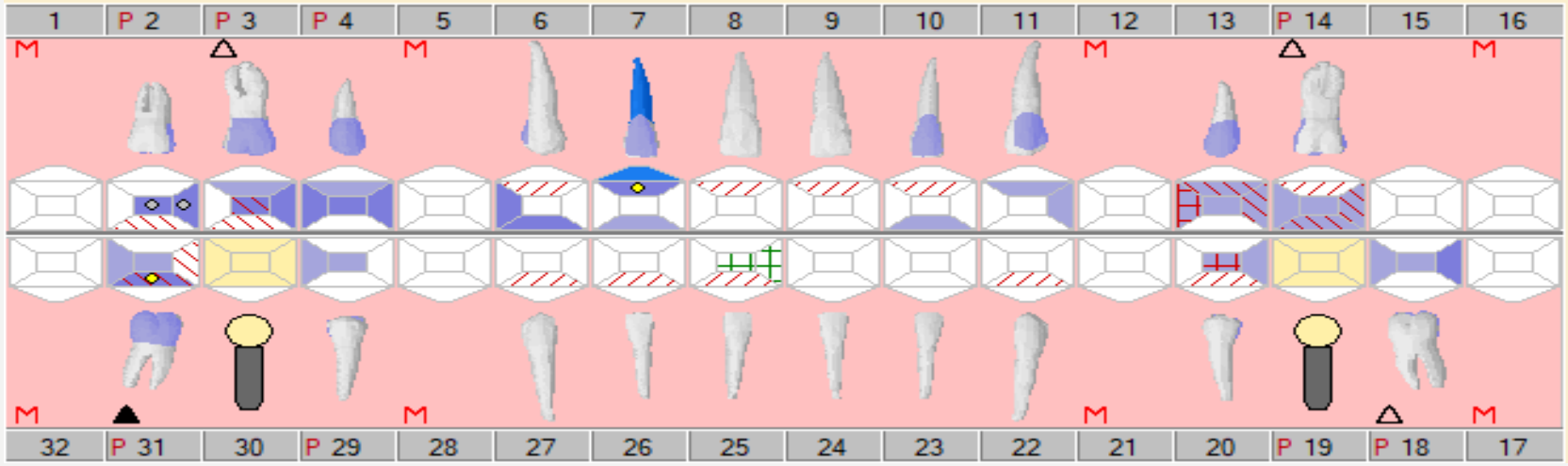
DENTAL HISTORY

- 2006: Became patient at MUSoD, 4 quads of SRP and resin restorations
- 2007: LR osseous surgery, periodontal maintenance, #7 endo, resin restorations, #30 free soft tissue graft
- 2008: periodontal maintenance, resin restorations
- 2009: periodontal maintenance, amalgam restoration
- 2010: periodontal maintenance, POE, #30 ext with bone graft
- 2011: POE, periodontal maintenance, #30 implant placed by Dr. Luepke, resin restoration
- 2012-2016: routine care
- 2017: SRP UR and LR
- 2018: #18 deemed unrestorable, pt refused ext, temporary restoration placed

RADIOGRAPHS

RADIOGRAPHS

ODONTOGRAM AND TXT PLANS



Tx Option 1 | + (New Option)

Tx Option Description: Tx Option 1

Provider	Diagnosis	Procedure	Procedure Description	Site	Surf.	Phase	Seq.	Sts.	Estimate	Ins. Est.
S3071		D2392	Resin-based comp-2 surf, post.	2	MO		0	C	94.00	0.00
S3071		D2950	Core buildup - including pins	13			0	C	132.00	0.00
S3071		D2950	Core buildup - including pins	18			0	P	132.00	0.00
			Estimated Total						358.00	0.00
New item										

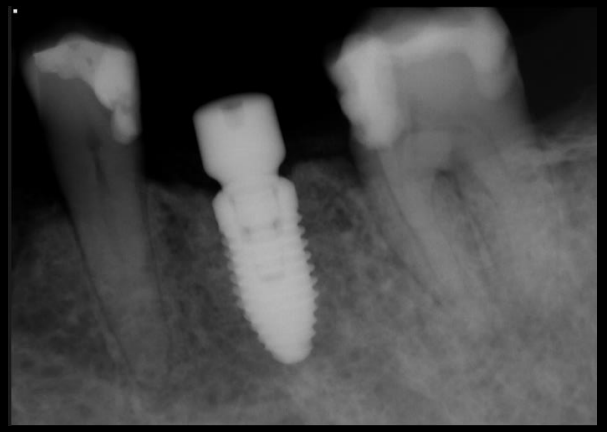
Tx Option 1 | + (New Option)

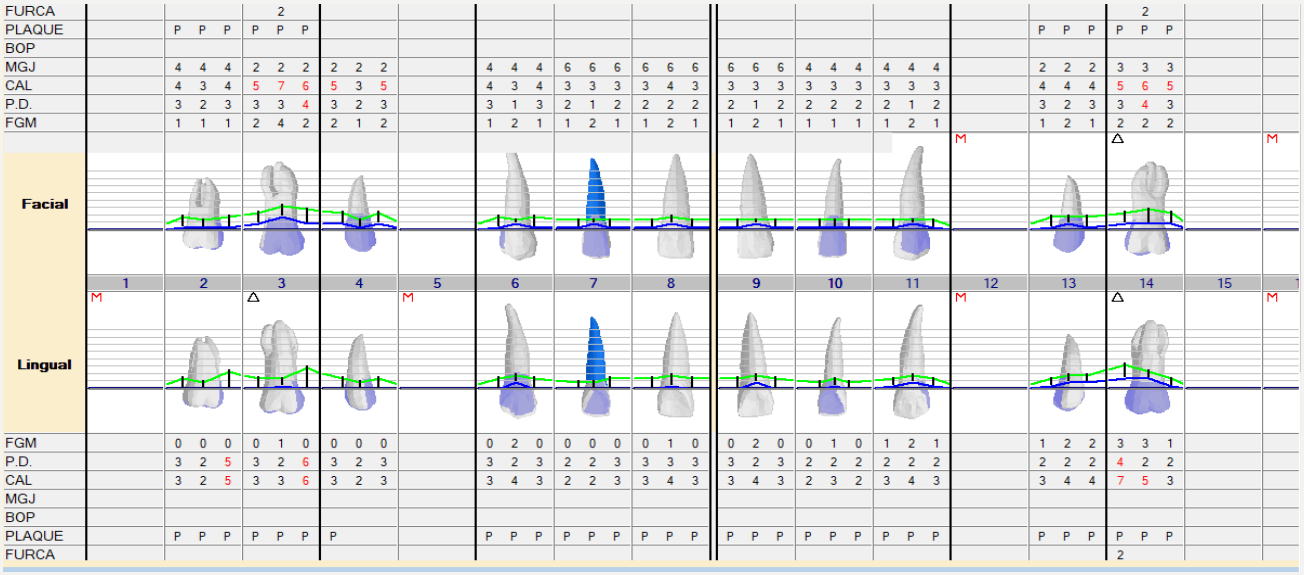
Tx Option Description: Tx Option 1

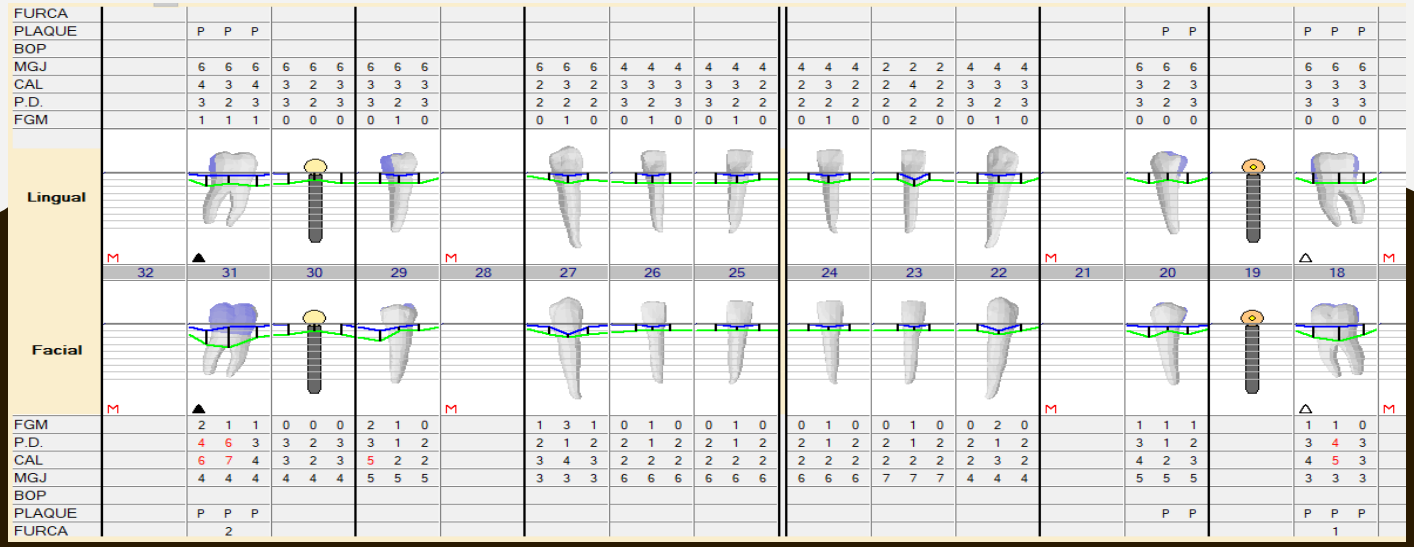
Provider	Diagnosis	Procedure	Procedure Description	Site	Surf.	Phase	Seq.	Sts.	Estimate	Ins. Est.
S3066		D2740	Porcelain cm.ceramic substrat	13	MODBL		0	P	420.00	0.00
S3066		LD2740	Porcelain cm ceramic substrate	13	MODBL		0	P	0.00	0.00
			Estimated Total						420.00	0.00
New item										

CLINICAL PHOTO-2017

CLINICAL PHOTOS 2019 #19 PLACEMENT







PERIODONTAL CHARTING

PROBLEM LIST AND RELEVANT FINDINGS

- Open mesial contact on existing restoration on #13
  - Treatment: CBU and crown #13
  - Result: Pt left CBU appointment satisfied with restoration. Pt upset at crown prep appointment and feels that the restoration on #13 is causing her teeth to shift and crowd between #8 and #9.

PROBLEM LIST AND RELEVANT FINDINGS CONT.

- #13 CBU and Crown continued
  - Pt became emotionally distressed and cried during Stage 2 treatment plan discussion when given options for crown materials. Pt mentioned she had a lot going on in her personal life and was not able to choose which type of material. Crown prep was postponed for a later date.
  - Adjusted interproximal contacts of CBU to pt satisfaction with a finishing strip

PROBLEM LIST AND RELEVANT FINDINGS

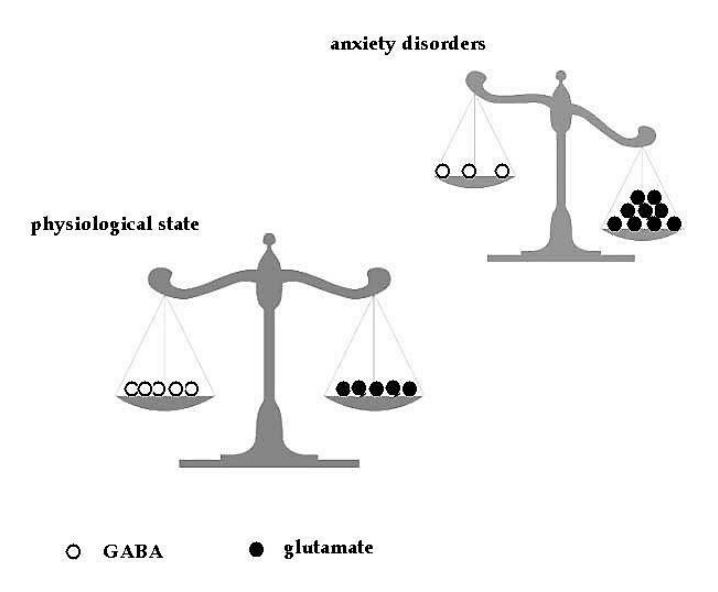
- #18 temporary restoration
  - Hopeless prognosis due to class furcation involvement. Patient expresses anxiety at the thought of losing another tooth and elects to postpone extraction
- #31 DB portion of existing resin fractured off
  - Class 3 furcation
  - Recommended treatment: ext #31 due to extent of caries and class 3 furcation involvement.
  - Result: Patient gives informed refusal of extraction due to her concern that the space caused by the extraction would be visibly noticeable to others and elects to have a resin placed with the understanding that the longevity of the tooth is questionable.

PROBLEM LIST AND RELEVANT FINDINGS

- Missing #19
  - Treatment: implant with screwmentable PFM crown
  - Result: Pt dissatisfied with final appearance of crown due to access hole

https://www.speareducation.com/spear-review/2014/02/sealing-the-screw-access-hole-on-screw-retained-implant-restorations

D1-WHAT PHYSIOLOGICAL PROCESSES ARE INVOLVED IN AN ANXIOUS RESPONSE?



https://api.intechopen.com/media/chapter/17574/media/image2.jpeg

- Two main neurotransmitters involved:
  - Glutamate
    - Excitatory
    - Excitatory impulse travels from the sensory neuron to the amygdala
    - Results in sweating, tachycardia, tachypnea
  - Gaba
    - Inhibitory
    - Results in sedative effects
- Glutamate & GABA imbalance in anxiety and panic disorders

Möhler, H. 2013. Differential roles of GABA receptors in anxiety. In D. S. Charney, J. D. Buxbaum, P. Sklar, & E. J. Nestler (Eds.), Neurobiology of mental illness., 4th ed. p. 567–579. Oxford University Press. Available from https://0-doi-org.libus.csd.mu.edu/10.1093/med/9780199934959.003.0042

Torterolo, A. D., & Levin, J. K. 2012. Panic Disorder: Symptoms, Treatment, and Prevention. Nova Science Publishers, Inc. Yedidya, A., & Chayat, G. 2012. Glutamate: Functions, Regulation, and Disorders. Nova Science Publishers, Inc.

WHAT ARE COMMON MANIFESTATIONS OF ANXIETY IN THE DENTAL CHAIR?

D2 PATHOLOGY

According to "The Seattle System," there are four groups of anxious patients:

(I) Fearful of specific stimuli

- Changes in motor function
- Intense emotional response (e.g. crying)

(II) Fearful of medical catastrophe

- Reporting allergies/reactions
- Physiological response (e.g. increased BP, HR)
- Overly talkative

(III) Generalized dental anxiety

- Reports trouble sleeping, exhaustion prior to appointment
- Reports other fears/phobias (e.g. heights)
- Extremely worried
- Concerned about how she is being perceived

(IV) Distrustful of dental personnel

- Argumentative
- Suspicious
- Sarcastic
- Concerned about how she is being perceived

Armfield, J., & Heaton, L. (2013). Management of fear and anxiety in the dental clinic: A review. *Australian Dental Journal, 58*(4), 390-407.
Ayer, William A. (2011). "Behavioral Foundations, Fear and Anxiety in Dentistry." *Psychology and Dentistry: Mental Health Aspects of Patient Care.*

D3 PICO

- **Clinical Question: What is the best behavioral strategy for managing an anxious patient?**

PICO FORMAT

P: Patients with anxiety

I: Non-pharmacological techniques

C: Pharmaceutical techniques

O: Reducing their anxiety

PICO FORMATTED QUESTION

In anxious patients, are non-pharmacological techniques an effective alternative to pharmaceuticals in reducing their anxiety?

CLINICAL BOTTOM LINE

- Both pharmaceuticals and non-pharmaceutical techniques are effective in reducing dental anxiety in anxious patients.

SEARCH BACKGROUND

- **Date(s) of Search: 9/8, 9/20, 9/22**
- **Database(s) Used: PubMed, Science Direct, Wiley Online Library**
- **Search Strategy/Keywords:** Dental Anxiety, Mental Distress, Non-pharmacological interventions, Behavioral Therapy, Treatment outcome

SEARCH BACKGROUND

- **MESH terms used: Dentistry, Dental Anxiety, Non-pharmacological interventions, Behavioral Therapy**

ARTICLE 1 CITATION, INTRODUCTION

- Citation: Deva Priya Appukuttan, Strategies to manage patients with dental anxiety and dental phobia: a literature review, PubMed, 10 March 2016
- Study Design: Literature Review
- Study Need / Purpose: The purpose of this study was to identify various pharmacological and non-pharmacological techniques and examine the effect of each on reducing dental anxiety.

ARTICLE 1 SYNOPSIS

- Method
  - The author examined the etiology of dental anxiety, explained how to identify dentally anxious patients, and discussed 18 non-pharmacological techniques as well as numerous pharmacological techniques in reducing anxiety; and provided literature-based evidence on the effects of each
- Results: Psychological and pharmacological interventions are both equally effective in reducing dental anxiety and phobia. Response to behavioral and cognitive therapy is not immediate however reduction in anxiety was maintained over longer time periods with more patients reporting back for future treatment. Pharmacological approaches are seen as less acceptable by patients when compared to psychological techniques, and have been shown to be effective on a short-term basis.

ARTICLE 1 SYNOPSIS

- Conclusions: Dental anxiety and phobia can have negative impacts on a person's quality of life. It is the duty and responsibility to still provide excellent dental care to patients with dental anxiety. In order to do so, the dentist must identify the source of anxiety and provide effective therapy to the patient using non-pharmacological techniques, pharmaceuticals, or sometimes a combination of both.
- Limitations: The complete reliance on previously published research. Literature review is a lower level of evidence.

ARTICLE 1 SELECTION

- Reason for selection: This article addressed the P, I, C, and O of our PICO question. It also provided evidence of individual non-pharmacological techniques and explained how they can be used with anxious patients to reduce their anxiety.
- Applicability to your patient: This article provides numerous non-pharmacological techniques you could select based on your clinical judgement of what would provide the largest reduction in anxiety for the individual patient.

ARTICLE 2 CITATION, INTRODUCTION

- Citation: Burghardt, Koranyi, Magnucki, Strauss, Rosendahl, Non-pharmacological interventions for reducing mental distress in patients undergoing dental procedures: Systematic review and meta-analysis, Science Direct Journal of Dentistry, 14 November 2017, Volume 69, Page Numbers 22-31.

- Study Design: Systematic Review and Meta-Analysis

- Study Need / Purpose: This systematic review and meta-analysis examined whether non-pharmacological interventions may be beneficial in reducing mental distress in patients undergoing dental procedures.

ARTICLE 2 SYNOPSIS

- Method
  - A total of 29 eligible RCTs were included, comprising a total of 2,866 patients. Included trials investigated hypnosis, enhanced information, relaxation, music, or cognitive-behavioral approaches including distraction
- Results: Random effects of the meta-analysis revealed significant positive treatment effects on the reduction of mental distress. Effects of pain relief and the reduction of analgesic use were not significant. No significant differences appeared between various types on non-pharmacological interventions, however hypnosis demonstrated the largest effect on reducing mental distress.

ARTICLE 2 SYNOPSIS

- Conclusion: Benefits of non-pharmacological interventions on reducing mental distress were demonstrated, and this could be considered as as valuable adjunct to standard care. Further high-quality trials are needed to strengthen the evidence
- Limitations: Dental procedures administered were limited to restorative treatment, endodontic treatment, tooth removal, or oral surgery not further specified. Low risk of all bias was reported.

ARTICLE 2 SELECTION

- Reason for selection: This article addressed the P, I, and O of our PICO question and was chosen because of its high level of evidence as a systematic review and meta-analysis
- Applicability to your patient: Evidence shows the success of non-pharmacological interventions on the reduction of dental anxiety and can be used in standard care when treating anxious patients.

ARTICLE 3 CITATION, INTRODUCTION

- Citation: Kvale, Berggren, Milgrom, Dental fear in adults: a meta-analysis of behavioral interventions, Community Dentistry and Oral Epidemiology, 06 July 2004
- Study Design: Meta-analysis
- Study Need/ Purpose: The aim of this meta-analysis is the examine the effects of behavioral interventions for dental anxiety and dental phobia

ARTICLE 3 SYNOPSIS

- Method: Eighty studies were identified where dental fear treatment with behavioral methods were evaluated. Thirty-eight of eighty studies met entry criteria and were included in the meta-analysis
- Results: The calculated effect sizes for self-reported anxiety after intervention indicate positive changes in 36 of 38 studies and no changes in two. Mean long-term attendance (>4 years after treatment) is 77%

ARTICLE 3 SYNOPSIS

- Conclusion: Patients signing up for behavioral intervention for dental fear can be expected to report a significant reduction in their fear, and this generally seams to be lasting.
- Limitations: Results were self-reported and bias could be present in this study (Hawthorne effect)

ARTICLE 3 SELECTION

- Reason for selection: This article addressed the P, I, and O of our PICO question and was chosen because of its high level of evidence as a meta-analysis.
- Applicability to your patient: This is hard evidence that patients in this study experienced a reduction in dental anxiety, and this could be used to convince an anxious patient to receive a behavioral management intervention.

LEVELS OF EVIDENCE

- [x] **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
- [x] **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)

☒	**A** – Consistent, good quality patient oriented evidence
☐	**B** – Inconsistent or limited quality patient oriented evidence
☐	**C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

CONCLUSIONS: D3

How does the evidence apply to this patient?

- The evidence shows the success of non-pharmacological techniques in reducing patient dental anxiety. It is important to discuss and apply these techniques to our patient in order to provide them with the absolute best care possible.

Based on the above considerations, how will you advise your D4?

- In order for this patient to receive their full treatment potential, their anxiety must be identified and managed. I would advise my D4 to keep the individualized patient in mind and read through these three articles to find which non-pharmacological treatment would be most effective for this patient. Explain to the patient that behavioral management techniques are long lasting and equally as effective as pharmaceuticals in reducing their dental anxiety.

CONCLUSIONS: D4

Based on your D3's bottom line recommendations, how will you ***advise*** your patient?

- Hypnosis would be an interesting intervention to try at the beginning of appointments

How will you ***help*** your patient?

- Continue to be patient, kind, reassuring, and understanding.
- Continue to talk about the positive benefits of talking to a professional about techniques to manage anxiety

HOW D4S DEAL WITH STRESS

(NOT RECOMMENDED)

QUESTIONS?

THANK YOU