



Periodontal Maintenance Patient Motivation and Compliance

1. BOP at any given site doesn't mean you'll lose attachment (low sensitivity)
2. If no BOP, you know you're not going to lost attachment in the future.
3. Hba1c = 9 means highly sensitive?
4. Pt has a1c = 5 so no diabetic complications = highly specific
5. Any test can have FP and FN; so multiple tests exist
6. Some test can have high sensitivity and specificity: Hba1c
 - A. Low A1c doesn't rule out no diabetes. Prob cus most ppl are pre-diabetic.
7. Surgical pictures: what tx would you give?
 - A. Given credit for these
 - B. Large bony defect in one image
 - a. What defect would you regen?
 - b. If you see negative architecture, then osseous surgery (resective). But could potentially do flap debridement
 1. Didn't know how deep pockets are

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Learning Objectives

- Describe patient compliance in periodontal therapy
- Identify potential predictors of patient compliance
- Discuss the challenges in achieving complete patient compliance with your recommended maintenance program
- Describe methods to enhance successful patient education and motivation

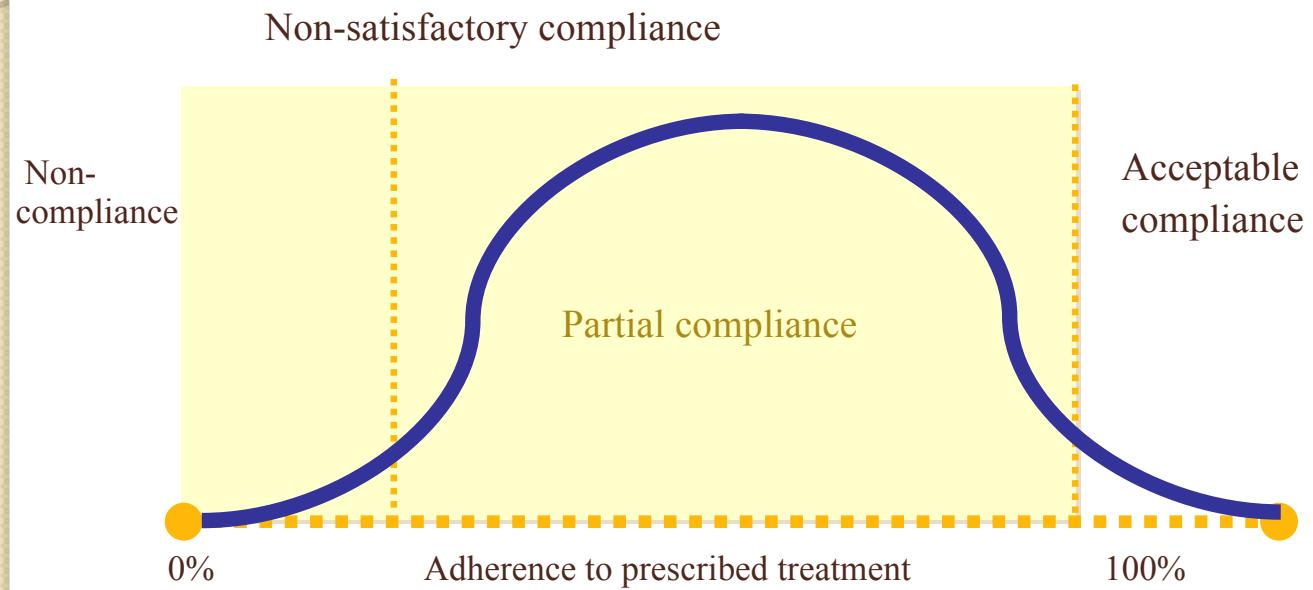


Compliance

- “The extent to which a person’s behaviour coincides with medical or health advice.”
Haynes (1976).
- Terminology:
 - Adherance
 - Therapeutic Alliance

So what is compliance? It has been defined as the extent to which a person's behavior coincides with medical or health advice, different terminologies have been used to define this and adherence and therapeutic alliance are some of the common terminologies used in the literature

Spectrum of Compliance



So compliance usually has a spectrum and it may look like this like a bell curve and you know we may define what is acceptable compliance depending on the studies that may have been defined at a different level so we define acceptable compliance, what is non compliance what is non satisfactory or satisfactory compliance they usually any way we define it would be acceptable, nonacceptable or partial compliance that is how we see that described

Defining Compliance in Periodontal Therapy



- **Complete compliance**
 - Patients attending
 - at least 70% of the expected maintenance visits, or
 - missing less than 1/3rd of scheduled visits, or
 - most maintenance visits
- **Non-Compliance**
 - Patients who complete all or part of the initial therapy and then cease attending.
- **Erratic or irregular compliance**
 - Patients who do not fit the classification of complete compliance but do continue with some maintenance.

Defining compliance in perio therapy, perio therapy has compliance in dentistry typically is used for various things like compliance to home care or plaque control however in perio therapy it has a very specific definition that have been used in the literature, complete compliance can be defied as patients attending at least 70% of their expected maintenance visits other studies have defined it as missing less than 1/3 of scheduled visits or attending most which is the most vague of those definitions

Non compliance is defined as patients who complete all or part of the initial therapy and then cease attending any further appointments

Erratic or irregular compliance is defined as patients who do not fit the classification of complete compliance or non compliance but they do continue with some maintenance therapy

Compliance in Periodontal Therapy

We don't expect pts to be completely compliant; bell curve (on test)

- Only **36%** of the patients were compliant over a 3 to 6 year period (**Mendoza, R et al, 1991**).
- Only **27.4%** of the patients were in complete compliance in a 14 year retrospective study (**Demetriou, N et al, 1995**).
- Only **16%** of the patients were compliant with recommended periodontal maintenance schedule while Erratic compliance was found in **49%** of the patients and **34%** never reported for any maintenance therapy in this 8 year study (**Wilson, TG et al, 1984**).

So we will now discuss findings from different studies on the extent of compliance that have been noticed in periodontics, Mendoza in 1991 they published that only 36% of the patients were compliant over a 3-6 year period

Demetriou found that only 27% of the patients were in complete compliance in a 14 year retrospective study so they essentially did a chart review and they found how many patients they found were in complete compliance

Wilson have done multiple studies on this and they found only 16% OF THE PATEINTS Were compliant with recommended periodontal maintenance schedule while erratic compliance was found in about 50% of the patients

Now they followed up with that and found 34% of patients never reported for any maintenance therapy in their 8 year study

Compliance in Periodontal Therapy

- The rate of compliance can be successfully increased to 32% with a concerted effort (**Wilson, TG et al, 1993**).
- Whilst greater than 95% of patients desire tooth brushing proficiency and lifelong retention of teeth at the initial office visit, the overall survival probabilities of SPT have been reported as 52% after 5 years in a Japanese population (**Ojima et al, 2005**).

SPT-Supportive Periodontal Therapy = Periodontal Maintenance

Trust issues or actually trust dentist

This is Wilson follow up study they found that if a concerted effort was made to motivate the patients then the rate of compliance can be successfully increased with 32% for complete compliance in those patients so they were able to double the rate of complete compliance in the patient population if an effort was made

So while Ojima found that while more than 95% of patients desire tooth brushing proficiency and life long retention of teeth at initial office visit the overall survival probabilities of support periodontal therapies perio maintenance was supported at 52% after 5 years in a Japanese population

Compliance Predictors

Private dental insurance coverage.
Periodontal Sx during treatment
Non-smokers > Smokers
(Mendoza, R et al, 1991)

Females > Males
SRP as only treatment
Younger patients
Higher socio-economic class
(Demetriou, N et al, 1995)

Favorable **oral health attitude** at initial visit **(Ojima et al 2005)**

Older patients
(Miyamoto et al 2006)

So what we have seen is that achieving complete compliance which is defining as patients attending their recommended periodontal visits it is actually challenging
Patients looking at different studies we have seen complete compliance can be 16% to anywhere around 30% most of the patients are going to be falling in partial compliance or erratic compliance
So now our interest is to see if we can identify patients who will be compliant or who will be non compliant so you can focus your attention on the patients if you can identify that they are possibly going to be non compliant or partially compliant.
So he has summarized the data from various studies some we talked about
What they found or the predictors of compliance
Mendoza found that if the patient had private dental insurance they were likely to be more compliant
If periodontal therapy was part of the treatment they tended to be more compliant and non smokers were more compliant
Dimitri found that females were more compliant
if SRP was the only treatment, non surgical therapy patients were more compliant
Younger patient population was more compliant
And patients in higher socioeconomic class were more compliant

Ojima found that if the patients had favorable oral health attitude at initial visit they ended up to be more compliant than otherwise

Miyamoto found that older patients were more compliant so you can appreciate it is not black and white the data is mixed
Demetroulakos found non surgical more compliant but Mendoza found the opposite so that cannot be definitive
So what treatment the patient received can not be predictive similarly the younger vs older

OHSU Periodontal Compliance Study

- EHR-based study
- 5 year retrospective study
- N=3740
- Two compliance schemes used
 - Time interval between recall appointments
 - Frequency of attending recall visits
- Fully-compliant- 6.9% to 23.7%
- Partially compliant- 24% to 42.9% and
- Non-compliant- 50.2% to 52.3%

Distinguishing factor in study?

They also conducted a study with one of the residents in grad perio at OHSU

This is a relatively recent study and they are in the process of trying to publish it, it was electronic health record base study retrospective looking at about 4000 patients and used 2 different compliance schemes defined as similar to what has been used in literature listed

So typically they recommend patients 3 month perio maintenance for the sake of the study we used 4 months of time interval between the study and if the patient were attending appointments every 4 months then those were completely compliant or the study period and the frequency we looked at an average number of appointments attended over a certain amount of time the patient were seen in the clinic if that added up to be even if their appointments were off little bit then that has some flex to that, so with that flex room obviously it had a more loose definition and more forgiving and you will see what the outcomes were so we found that fully compliant patients range from about 7% to 23/24% and again that is the difference between the two ways two compliance schemes we used, partially compliant ranged from 24-42% and non compliant patients range from 50-52% so at least 1 trend is clear from this that the non compliant patients remain about 50% no matter how we defined it and depending on the rigidity of the definition we had more fully compliant or partially compliant patients But the trend is still quite clear that fully compliance patients were essentially in sync with the data we saw before were up to about 1/4 of the patients we see so we are not seeing a lot of fully compliant patients even in academic setting



OHSU Periodontal Compliance Study

- Negative predictors of compliance:
 - Smokers
 - Non-white/non-Hispanic patients
 - History of problems while chewing food

- Positive predictors of compliance:
 - Daily flossing
 - History of prior periodontal therapy
 - Pain and discomfort at initial visit

Looking at the predictors in our study we saw the negative predictors of compliance a patients who were not likely to be attending all the recommended periodontal maintenance visits those patients were more smokers, more non white , non hispanic patients and they had a history of problems while chewing food now remember with our axiom electronic health records system we looked at a lot of different factors so that's why we looked at some things that are usually might not have been reported in the prior studies and the positive predictors of compliance were if the patients reported daily flossing, if they had a history of prior periodontal therapy, and if they reported pain and discomfort at initial visit, those we found were positive predictors of compliance

OH Practices in Health Care Professionals

- Over 70% of dentists and nurses brushed at least twice a day while only 57% of other health professionals did so.
- Frequencies of flossing at least once daily were 67% for nurses, 56% for dentists and 36% for other health professionals
(Merchant et al 2002).



So lets talk about oral hygiene practices in health care professionals you might assume that health care practitioners being as a good awareness is going to be that we might expect the best oral hygiene practices so lets look at some of the data

Over 70% of dentists and nurses brushed at least twice a day while only about 57% of other health professionals did so

So roughly half of the other healthcare professional might not be brushing twice a day

Frequencies of flossing at least once daily were 67% for nurses, 56% for dentists and 36% for other health professionals

So probably based on this data maybe half of you don't even floss once daily so if that is what the data suggest for healthcare professionals we can imagine that in real life our expectation or in real life from patients going to be definitely less than that so keep that in mind



Compliance and Periodontal Therapy Outcomes

- Trend for improved clinical parameters following periodontal therapy in compliant patients (**Miyamoto et al 2006**).
- Compliant patients retain their teeth longer. During a 5 year period, compliant patients did not lose any teeth and the frequency of tooth loss was inversely related to frequency of attending periodontal maintenance (**Wilson, TG et al, 1987**).

So compliance and periodontal therapy outcomes

There was a trend for improved clinical parameters following perio therapy in compliant patients as we would expect

Compliant patients retain their teeth longer during a 5 year period, compliant patient did not lose any teeth and frequency of tooth loss was inversely related to frequency of attending perio maintenance

So as you would expect if patients were compliant this study found they were not going to lose their teeth as they would do otherwise so there are obviously benefits to maintaining teeth we talked last week as well in perio maintenance therapy that teeth that have perio disease can be maintained successfully over a long period of time and this data is also suggesting that

Stages of Change



Now this stages of change this is transtheoretical model of behavior change

For example for toothbrushing we talk about this but this is psychological model behavior model that can be applied to any behavior per say so as we talk about stages of change a person goes through precontemplation when they are essentially in denial

Contemplation when they are at the fence about anything, not sure if they want to make that change or not
And going through determination at preparation stage, yes they want to make change probably in next 3 month time and they are motivated about it

Action is they are actually making that change they have already made that change and are somewhere in-between 3-6 months of when they made that change initially

Maintenance is that they are living it they have been made that change and its been over 6 months

And relapse recycle is that they have gone off their habit the behavior they have changed and have to start all over again

So this is essentially what we need to determine for any behavior for example if the patient has been compliant with perio maintenance therapy, we also will talk about this in toothbrushing habits and flossing habits we have to see where the patient is, we also talked about this during smoking cessation, we again have to assess for any behavior if the patient is in which stage of behavior change model and then basically tailor your recommendation based on where they are coming from

Individual Treatment Goals

Tx differs based on motivation

- Function
 - Esthetics Small gingival recession, pt doesn't smile even tho small defect = esthetics
 - Speech
 - Longevity
 - Systemic Health
-
- ❖ *Individualization of Treatment Approaches*

So individual treatment goals are critical to understand it could be function, esthetics, speech,. Longevity or systemic health

When a patient walks in the door we have to understand what motivated that patient to come to see you, we have to first address their individual treatment goals, and any treatment plan we develop should address their goals, tats how it needs to be we will look at that



This patient walked in a while ago, he saw this patient and she had this abscess you can see sinus tract on facial of #9, the tooth was deemed non restorable so they planned to extract it and place implant immediate implant and go from there so now this patient had a very esthetic concern we have to address that rather quickly she also had pain and abscess associated with that tooth so again there were many concerns there were some urgency about this so again any time patient presents with any disease urgency then that has to take priority and that's patient Essentialy motivation to come see you

We will complete our overall evaluation and we will make sure that we get to other treatment needs but the patients urgent need that needs to be addressed he cannot emphasize that enough especially in academic setting we have a lot of protocols sometimes examinations take 2 even 3 appointments so its very critical that we identify if the patient has any urgent need then that should be taken as a priority and address that before we continue with our oral evaluation so keep that in mind

Positive reinforcement



And again once you have a patient that is motivated you address the patients immediate concerns you will definitely have a much better repair with that patient and much better chance to do the treatment recommended for that patient

Patient Education and Motivation

- Verbal and non-verbal communication helps motivate the patient to comply with periodontal therapy (**Bakdash 1979**)
- Professional oral hygiene instruction (OHI): Improved brushing and flossing ability after 2x OHI and maintained even after a year (**Stewart & Wolf 1989**)
- Self instruction manual or patient directed literature can complement in-office oral hygiene instruction (**Odman et al 1984**)

So now lets talk about

Patient Education and Motivation



- Use of plaque disclosing tablet immediately prior to brushing increased brushing time by 20% and resulted in significantly more plaque removal (**Schafer et al 2003**).
- Viewing an instructional video results in greater whole mouth plaque reduction compared with reading a leaflet (**Addy et al 1999, Renton-Harper et al 1999**).

So use of plaque disclosing tablets

Immediately prior to brushing increased brushing time by 20% and resulted in significantly more plaque removal so we highly recommend using plaque disclosing tablets to in the clinic when you are doing oral hygiene instructions so this is a very effective tool, patient walks in as you giving instructions before you do any therapy just do disclosing disclose patient show it to them what you're looking at how much plaque and even for reinforcing your plaque control instruction when patient comes back and if they have improved plaque control it helps you encourage the patient and motivate them see we are doing much different so leave a positive note and make sure the patient is using that information to get patient motivated and that will help you get a better relationship with patient as well

Viewing instructional video results in greater oral mouth plaque reduction compared with reading a leaflet, now these different studies found that instead of using a leaflet or brochure if you showed a video to the patient that was even effective too and in age of cell phones and what not we got a lot of tools you can use essentially motivate patients

Patient Education and Motivation

- Discussion with social contacts (friends and parents) lead to a greater proportional reduction in gingivitis levels (**Lim et al 1984**)
- Socio-economic status and work schedule flexibility are proportional to tooth cleaning frequency, use of oral hygiene aids and level of dental plaque (**Abegg et al 1999**)

Discussion with social contacts, friends and parents lead to a greater proportional in gingivitis levels so if you have a patient a younger patient you involve te parents in the discussion if the patient come in with a friend you could discuss with them its a littel dicey because in the study they found if you discuss with spouse that was not that did not produce a positive result so you have to be careful about that but at least for the youge population for children you see you definitely want to involve parents in discussion to reinforce your recommendations at home

Socioeconomic status and work schedule flexibility were proportional to teeth cleaning frequency, use of oral hygiene aids, and level of dental plaque so this has been consistently seen in differs studies that patients who have higher socioeconomic status were more compliant, is usually true, and again if their work schedule is more flexible then they were more compliant so you have to talk to the patient sometimes they will come up front and tell you they are working construction or they are long hall truck drivers and they cannot follow your instructions completely so you have to talk to them what the challenges are and suggest some solutions to the problems and he often does that and usually you will figure out tell them something they will find as a workable solution to their problem but discuss it so they might not just ignore recommendation and will at least appreciate that you are concerned about developing concerned about how it is a practical solution for them or not



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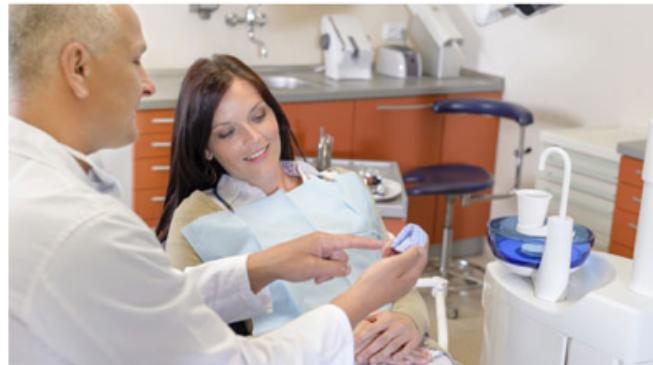
GUM DISEASE INFORMATION

- [Types of Gum Disease](#)
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PERIODONTAL TREATMENTS AND PROCEDURES

PATIENT NEWSLETTER SIGNUP

GUM DISEASE INFORMATION



PERIODONTAL (GUM) DISEASE IS A LEADING CAUSE OF TOOTH LOSS AND MAY BE ASSOCIATED WITH OTHER CHRONIC DISEASES, INCLUDING DIABETES AND HEART DISEASE.

- [Types of Gum Disease](#)
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RECENT PRESS RELEASES

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Thursday, August 1, 2013

[Life is Less Satisfying When Living with Gum Disease, Says New Study](#)

Lets take a look at different resources that you have, you don't have to reinvent the wheel this is a website for the American Academy of Periodontology

Perio.org

This has resources that talk about types of gum disease, gum disease risk factors, symptoms

In women how the gum disease is, in men, in children

Comprehensive patient evaluation a lot of different topics you can bring it up on phone or computer and show them so they can explore that further at their home and it has some very useful information

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MouthHealthy.org is Now Live



The ADA's new [dental health website](#) for consumers, MouthHealthy.org, has information you need to take better care of your mouth today so it will take care of you for life.

Visit your life stage and find healthy habits, top concerns, nutrition and fact or fiction information:

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- Adults Under 40
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For Kids! has activities and games to help kids learn the importance of good oral health care – all while having fun.

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Top Ten Dental Symptoms



Question about your mouth? Check out these slides to discover likely causes of common dental symptoms. [View Slideshow](#)

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ADA® Find-a-Dentist™ helps you find an ADA member dentist in your area – whether a general practitioner or specialist, near your home, work or school – you can customize your search and find the dentist you need.

Mouth healthy .org

Is the ADA's website for patient education and as you can see it has pretty extensive information but it has information specifically with age groups, for pregnancies, babies and kids, teens, adults under 40, 40-60, 60+ so it has very specific age groups but it has much more detailed info for patient education so at least you can give these websites as resource for patient to explore further

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Look for oral care products with the
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- Healthy Habits
- Concerns
- Fact or Fiction?
- Nutrition



ADA Seal Products



A-Z Topics



Nutrition



Dental Care Concerns

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MouthHealthy > Adults 40-60

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Adults 40-60



Keep your smile forever. You may be getting older but your oral health doesn't have to suffer.

[Watch this video...](#)

We all know life can be busy, but don't neglect your oral health. Your dental care is just as important now as it was when you were a kid. Untreated dental disease can lead to serious health problems such as infection, damage to bone or nerve and tooth loss. **Brush your teeth** twice a day, **floss** once a day and see your dentist regularly. This simple routine can help you remain Mouth Healthy for Life.

Missing Teeth

Did you know that the average adult between the ages of 20 and 64 has three or more decayed or missing teeth? If you are missing one or more teeth, there are plenty of reasons to correct the problem. Talk to your dentist for more information about improving your smile.

To learn more, visit our other Adults 40-60 pages on MouthHealthy:

- Healthy Habits
- Concerns unique to you
- Nutrition tips

Then test yourself with the **Fact or Fiction Adults 40-60 quiz**. Keeping your mouth healthy now can help you stay Mouth Healthy for Life.

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2min2x.org

This is how the website or the link for adults 40-60 looks like and you can see they talk about missing teeth, obviously expecting the certain prevalence of missing teeth with age so they will talk about that and talk about different facts in that age group and there is obviously more info for patient interested in learning more about it

Periodontics

Bone Grating

Single Implant

Multi Implants

Oral Surgery

Periodontics

Diagnosis of Poor Gums and Consequences

Pocket Recording Around Teeth

Bone Surgery for Pocket Correction

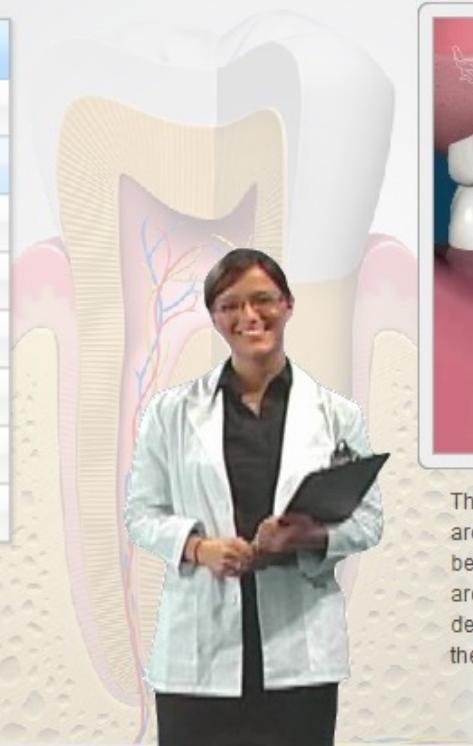
Recession Correction Gum Graft

Bone Surgery for Crown Preparation

Bone Surgery for Pocket Correction

Cosmetic Gingivectomy Simple

Recession Correction Gum Flap



This movie shows how we can determine pocket depths around teeth. The amount of bone loss around teeth can also be evaluated from these pocket readings. The dentist checks 6 areas around every tooth to get accurate recordings. Pocket depths and bone loss readings are important in determining the type of treatment that may be needed.

Consult-PRO™
Dental Patient Education Software

WebLink

There are different softwares developed by private companies and you will learn about these at any dental large dental meeting that you attend you will see booths set up this one is from consult pro this is a specieic perio disease software and you can see he picked one of those pocket recording around teeth so they are showing as we are probing if patient has deeper pockets it will tell them exactly whats happening and also demonstrate that once you reflect a flap how what we are seeing underneath and how the boner loss is and you can use these links to describe how the periodontal disease is, how you will treat it, what is bone grafting, what a single implant, multiple implant oral surgery it just helps you convey your treatment plan communicate well the disease the patient is presenting is sot hey can visualize that discussion and it makes your job easier so that's a great tool

Patient Education

CAESY

Dolphin Aquarium

CAESY Patient Education Systems

Award-winning patient education from anywhere within your practice.

Promote your cosmetic services and educate your patients about dental health and a healthy lifestyle from the moment they walk in the door, with the Smile Channel module.

Once in the operatory, CAESY Perspective's live-action videos with 3D animations help you explain a wide range of dental topics, thereby increasing patient case acceptance.

CAESY Cloud offers valuable patient education presentations that are available to any practice with an Internet connection. CAESY videos can be delivered via either the Cloud or CAESY Enterprise.

CAESY Enterprise features the full suite of programs, including Smile Channel and the CAESY Perspective videos. Streamline and grow your practice with multi-user and multitasking capabilities, as well as the ability to customize presentations and add digital images.

CAESY Enterprise includes two additional modules.

- **Showcase module** – For patients, burn CDs filled with pertinent information, including X-rays, treatment plans, financial agreements and more
- **Printables module** – Strengthen your recommendations by printing treatment options and post-treatment instructions

Eaglesoft integration

Enjoy even more productivity when you use CAESY in conjunction with Eaglesoft practice management software. The two programs are fully integrated, so you can seamlessly create impressive case presentations that include recommended treatment, patient images and information, notes and multi-media patient education presentations. Take your treatment planning to a whole new level!

Call 1-800-254-8504 to find out how CAESY can help your practice.



Patterson dental has CAESY patients education systems again on same track he is not recommending any of the softwares per say but as an example these are some of the different softwares he looked at again there will be many more so do your research and identify what might work better or you like better for your practices

Periodontal Risk Assessment

PreViser

File Tools Help

Back Forward Home Support Options Help

Otis Davidson PERIO

Save for Later | Delete | Print Form

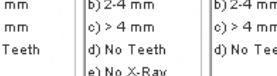
Deepest Pocket Per Sextant

Upper Right	Upper Anterior	Upper Left
a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth	a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth	a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth
<input checked="" type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding



Lower Right	Lower Anterior	Lower Left
a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth	a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth	a) <5 mm b) 5-7 mm c) >7 mm d) No Teeth
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding

Xray: Distance from CEJ to Bone Crest

Upper Right	Upper Anterior	Upper Left
a) <2 mm b) 2-4 mm c) > 4 mm d) No Teeth e) No X-Ray	a) <2 mm b) 2-4 mm c) > 4 mm d) No Teeth e) No X-Ray	a) <2 mm b) 2-4 mm c) > 4 mm d) No Teeth e) No X-Ray
		
<input type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding	<input type="checkbox"/> Bleeding

Choose the greatest measurement per sextant (not the average)
Check the 'Bleeding' box for any sextant that bleeds on probing

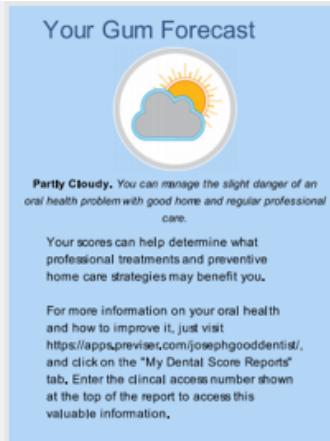
< Previous Next >

Ready...

So lets talk about periodontal risk assessment

Not only we can use these very interesting tools for patient education and motivation we can use these for periodontal risk assessment as well and what he is showing here is again this is from pre wiser software and it will give you an assessment of deepest pocket per sextant in any given patient and will talk about x rays the distance from CEJ to bone crest so essentially we are creating a risk assessment for the patient for periodontal exam

Periodontal Risk Assessment



Gum Disease and You.

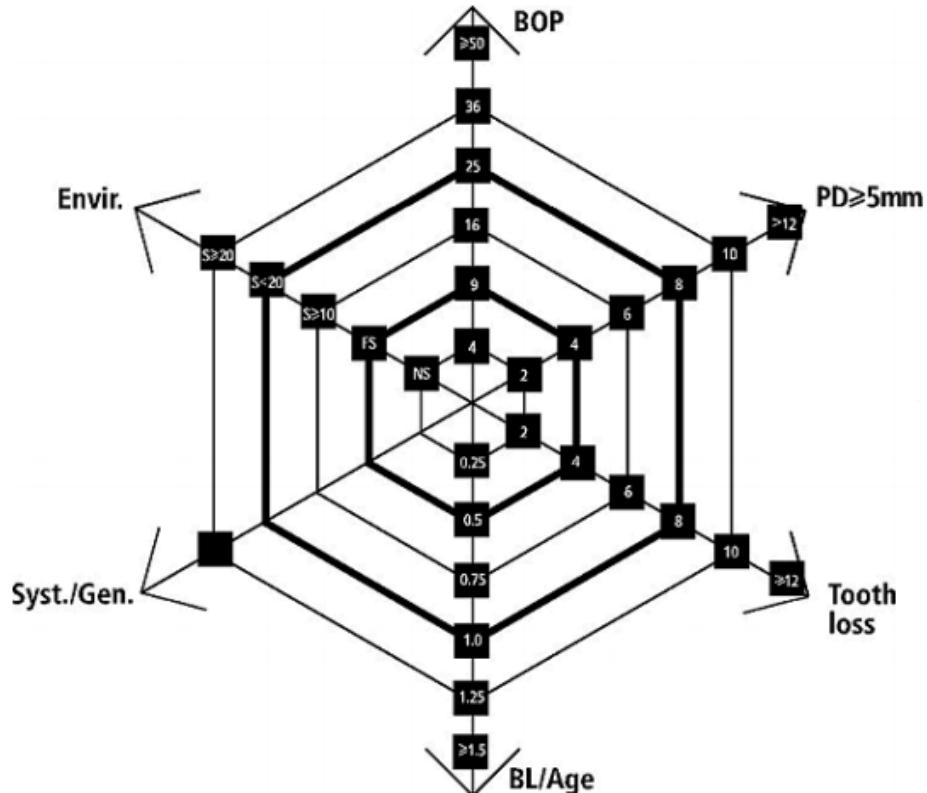
Knowing your gum health scores is the first step in improving, or maintaining the health of your gums. Here are other simple steps you can take:

- Talk to your dentist about managing any factors that contribute to elevated risk of disease.
- Ask your dentist how gum disease may impact other serious health ailments such as heart disease, Alzheimer's, strokes and diabetes.
- Take advantage of new products and technologies that may help you optimize your health through improved home care. A customized home care report is available that can make recommendations based on your gum health scores.

Moving further, when you answer all this question its going to give you gum disease risk score for that patient and again based on what the patient is presenting with you will see that the patient may be at very high risk or very low risk for periodontal disease and again this may be a good tool for the patient to think about and again you can look at a longitudinal data that patient had at a higher risk before therapy lets say and with therapy their risk has reduced lets say they had somebody was uncontrolled diabetic for example and they control the diabetes and lets say in hcertain amount of time with perio therapy their risk has reduced dramatically

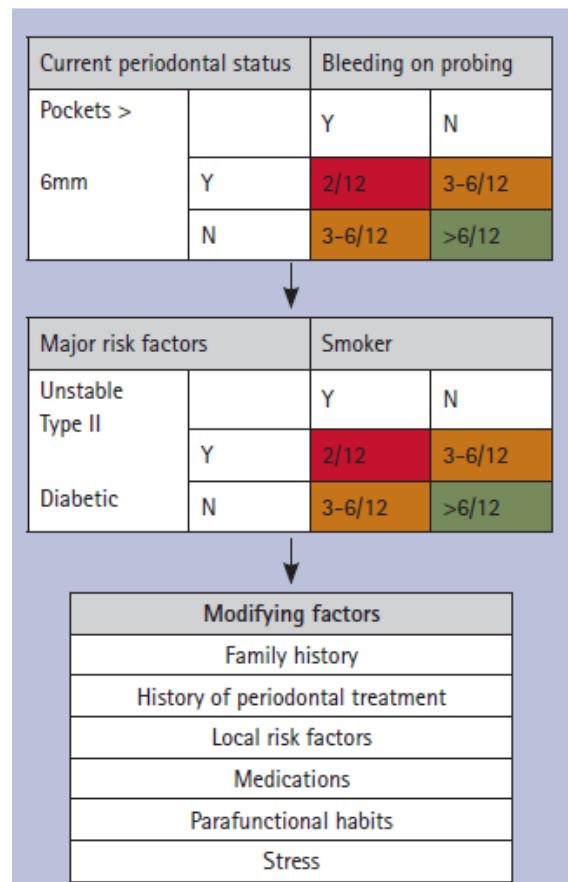
This is what we will expect but this can be used as a good tool for you to explain that to your patients as well and it has interesting gum forecast, what they can expect and interesting way to describe that

Periodontal Risk Assessment



Another way to look at it is as you see here, BOP, pocket depths, deeper pocket depth, tooth loss, bone loss with the respect to age Andy systemic factors, environmental factors for example patient is smoker so you know we rate the patients now on all these factors how many sites with BOP we see, how many teeth have been lost, how many pokiest the patient has deeper pockets more than 5mm, bone loss with respect to age that we talk about with the rating of periodontal disease in the new classification so once you color all these areas in this image then you get a sense of how high the risk is for the patient for periodontal disease

Periodontal Risk Assessment



And patients current periodontal status for example patients have deeper pockets, not only that having only deeper pockets but also how many of those are bleeding on probing, how many are not bleeding, and if they are not deeper pockets then how many of the pockets that are not deep and they are bleeding or how many of those are not bleeding so essentially it gives you a pictorial assessment of how and it is using colors deeper pockets that are also bleeding is a bigger problem and it is giving you red color for that, and if it is shallower pocket but the bleeding and also deeper pocket that are not bledng are kind of orange those are caution areas essentially and the shallow pocket that are not bleeding is essentially god healthy sites

So that is something to think about now also for type 2 diabetes that is showing you how many type 2 diabetes patients that are smokers as well those are the major risk factors so if somebody has both of those that's red and if you have either one of those then that's orange and If none of those then that's green so you have to think about it, now this article is from 2011 this data is from 2011 article, now remember that in our recent perioditits classification system this essentially has been incorporated in the grading for the disease where ewe use smoking and diabetes contraol as modifier for the grade so the grad will essentially give you that information but again it has been used as a periodontal as a risk assessment tool as well

Predictors of tooth loss in Periodontal Maintenance Patients

- Heavy Smoking, Initial Diagnosis, Duration of SPT and PPD $\geq 6\text{mm}$ were risk factors for disease progression while PPD $\geq 6\text{mm}$ and BOP $\geq 30\%$ represented risk for tooth loss.

Matuliene G et.al., 2008

- Severe Periodontitis, Aggressive Periodontitis, Smoking, Bruxism and Baseline number of teeth and tooth-related factors were associated with tooth loss due to periodontal disease.

Martinez-Canut, P. 2015

- Age, Smoking and Initial Tooth Prognosis were associated with tooth loss during periodontal maintenance.

Chambrone, L et.al., 2010

So lets now talk about predictors of tooth loss in periodontal maintenance patients

Different studies have looked at it and heavy smoking initial diagnosis for example if a patient had initial diagnosis of with current system lets say generalize stage 3 grade C, that patient would have more severe diagnose to begin with versus somebody who have localized stage 2 grade B periodontitis that patient would have a less severe diagnosis to begin with, duration of the periodontal maintenance supporting perio therapy, how long the patient has been maintained and if the probing periodontal depths were more than 6mm those were seen as risk factors for disease progression while the patients who had probing periodontal depths of more than 6mm and BOP more than 30% that represented risk for tooth loss so again these are risk factors for tooth loss and risk factor for disease progression and you can see deeper pockets and BOP in more than 30% of the sites were seen as risk factors for tooth loss as well,

Severe periodontitis aggressive as it has been defined historically, history of smoking, bruxism and base line number of teeth and tooth related factors were associated with tooth loss due to periodontal disease

Age, smoking, and initial tooth prognosis were associated with tooth loss during periodontal maintenance therapy so again smoking will come distinctly as a significant risk factor for tooth loss and for disease progression as we have discussed in the prior lectures that is very significant risk factor, if the initial tooth prognosis was considered unfavorable or hopeless then that patient obviously will be more likely to lose teeth during periodontal maintenance therapy, and again like we discussed if the initial diagnosis of the patient is initially presenting with more severe disease then obviously they are more likely to lose teeth even with therapy, vs if it was otherwise

So as we motivate our patients think about patients who are you have to think about which stage the patient is presenting with and which stage the patient is at with any with your given therapy with every maintenance visit with every visit the patient is coming to see you for think about where the patient is and how you are motivating that patient and every single appointment and yes we will make sure that patient are compliant with therapy not only with compliance to perio maintenance visits but also getting compliance with their home care plaque control home care and the brushing and flossing as you are recommending so work with your patients on that and that is a key to get successful outcomes with periodontal therapy



WHICH STEP HAVE YOU REACHED TODAY?