1 The Miller McEntire Periodontal Prognostic Index (i.e., "The Perio Report Card") Usage in Practice

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1.1 Introduction

The Miller McEntire Periodontal Prognostic Index (MMPPI), which the authors like to term "the Perio Report Card," is a simple, powerful, evidenced-based, statistically validated, and accurate motivational tool [1] which can be used daily in clinical practice with all patients (Fig. 1.1). The current score sheet has undergone multiple modifications, and individual clinicians can make further modifications to suit their practice needs. Its usage is not limited to patients presenting with periodontitis but is routinely used with periodontally healthy patients which is reviewed below in Case #1. The *benefits to the patient* are that they better understand their long-term periodontal prognosis of 15 and 30 years. Accurate prognosis can be determined by scoring the most periodontally involved molar that you plan to keep. The strength of the MMPPI is that it translates clinical outcomes into patient value [2].

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Miller-McEntire Periodontal Prognosis Index

Tooth	#	#	#	#
Date				
Furcation				
Diabetes				
Mobility				
Probing Depth				
Molar Type				
Smoking				
Age				
TOTAL				
15 Year Prognosis				
30 Year Prognosis				

*Our goal is a score of < 5

Score	15 Year	30 Year	
1	98%	94%	Excellent
2	97%	93%	
3	96%	89%	
4	95%	85%	
5	93%	80%	Good
6	90%	74%	
7	86%	66%	
8	81%	56%	Guarded
9	75%	45%	
10	67%	33%	
11	53%	22%	

Statistically, a score under 4.3 means you should never lose a tooth to periodontal disease

Smoking increases your chance of losing teeth to periodontal disease by 246%

Furcation
None = 0
1 = 1
2 = 2
3 = 3
T-T = 3 "through & through"

A1C Levels
< 6 = 0
6.1 - 7.0 = 1
7.1 - 8.0 = 2
8.1 - 9.0 = 3
> 9.1 = 4

Mobility
None = 0
1 = 1
2 = 2
3 = 3

Probing (mm)
< 5 = 0
5 - 7 = 1
8 - 10 = 2
> 10 = 3

Molar Type
Mand = 0
Max 1st = 1
Max 2nd = 2

Smoking
Non-smoker = 0
Smoker = 4

Age
1 - 39 = 0
> 40 = 1

Keys to Success:

- Brush, floss, clean your teeth and tongue daily
- Complete recommended treatment
- Adhere to the recommended maintenance schedule
- Control your blood sugar (if diabetic)
- Stop smoking or at least cut back to under 5/day

Fig. 1.1 MMPPI (Miller, Levine, Fava 2017)

1.2 Objectives and Application

The *objectives* of using this index include:

- Motivating the patient to accept treatment, complete treatment, and make the patient aware of the importance of complying with periodontal maintenance [3–5] defined as the "Keys to Success."
- To simplify scoring so that the score can not only be determined by the dentist but also by trained auxiliaries. If performed by auxiliaries, it takes no chair time from the dentist. *To help to train staff easily to score patients, it is recommended to review in a scheduled team meeting on the MMPPI (Parts 1 and 2)*[1].
- To encourage patients to make lifestyle changes to improve their overall health**.** This would include smoking cessation and blood sugar control [6, 7].
- To empower the whole "team" (dentists, dental assistants, dental hygienists, and case presenters) in its use in helping patients to attain better periodontal and systemic health as we are the "physicians of the mouth."
- To encourage the patients to refer family and friends.

For a better understanding of clinical scoring, the reader is referred to online videos and resources (see Footnote 1). Since smoking was the most significant factor, there is a video on smoking cessation on this site. Smokers should also be referred to support services for in-depth counseling and assistance.[2]

For patients with diabetes mellitus or who are suspected of having diabetes mellitus, HbA1c values need to be evaluated. An in-office HbA1c testing kit should be readily available. If the patient has not been diagnosed with diabetes mellitus and the in-office HbA1c score is elevated, the patient should be referred to a physician for the diagnosis, as this is a medical diagnosis and not a dental diagnosis. By following these objectives, we can become more of a physician of the mouth rather than just simply performing traditional dental procedures [8–10].

Based on the study by Miller et al. [1], seven patient factors are highlighted to be scored that include (Fig. 1.1):

1. **Furcation involvement of the molar to be scored**:
   - none = 0,
   - 1 total furcation = 1 (does not matter if it is a Class 1, 2, or 3)
   - 2 total furcations = 2
   - T-T (through and through) furcation = 3

   (*Note: Typically when furcations are charted, the severity is noted,* i.e.*, Class 1, Class 2, and Class 3. This index only scores the number of furcations present, not the class or severity).*
2. **HbA1c levels:**
   - <6% =0
   - 6.1–7.0% = 1

[1] See https://pdmillerswebtextbook.com/.

[2] For smoking cessation help: call 1-800-QUITNOW (784-8669).

- 7.1–8.0% = 2
- 8.1–9.0% = 3
- >9.1% = 4

(Important note on scoring HbA1c: If the patient does not know their recent score, score the patient as a "2" until the patient's blood work is received. Using the MMPPI thus motivates the patient to better understand their HbA1c score and control their diabetes by lowering their blood sugar.)

3. **Mobility of the molar to be scored:**
   - none = 0,
   - 1 = 1
   - 2 = 2
   - 3 = 3 (tooth is depressible)
4. **Deepest probing depth in millimeters (mm) of the molar to be scored:**
   - <5 mm = 0
   - 5–7 mm = 1
   - 8–10 mm = 2
   - >10 mm = 3
5. **Molar type: 0–2:**
   - Mandibular molar = 0 (either a mandibular first or second molar is not significant)
   - Maxillary first molar = 1
   - Maxillary second molar = 2
6. **Smoking: either you smoke or do not smoke:**
   - non-smoker = 0,
   - smoker = 4,

   (Note: Of all categories scored, smoking was by far the most significant negative factor in determining periodontal prognosis. Using the Cox Hazard Ratio, statistically a score of 4 was assigned for smoking. The overall objective is to keep the MMPPI score below a 5. When the score is 5 or less, statistically patients never lose teeth to periodontal disease [1]*. For example, if a smoker has a score of 9, they have a 75% chance of keeping their teeth for 15 years (Fig. 1.1). If the patient stops smoking, the score becomes a 5, and they will have a 93% chance of keeping their teeth for 15 years (Fig. 1.1). While immediate cessation is desired, many patients will only stop smoking over a period of time (see online video on smoking cessation))* (see Footnote 1).
7. ***Age has a minimal and limited factor on periodontal long-term prognosis:***
   - 1–39 years of age = 0
   - 40 or > years of age = 1

Scoring and prognosis: our clinical posttreatment "target" goal is an MMPPI score of < 5:

- Score of 1 to 4 has an "excellent" prognosis
- Score of 5 to 8 has a "good" prognosis
- Score of 9 to 11 or greater has a "guarded" prognosis.

1.2.1 **Keys to Success** (Bottom Right of Fig. 1.1)

It is important to realize that the keys to success are not a promise of success but a guideline that allows the patient to succeed. All of these keys are the responsibility of the patient and if followed will produce a long-term favorable outcome. Until recently, the importance of cleaning the tongue has not been emphasized. Ninety-five percent of the bacteria left after brushing and interdental cleaning are on the posterior third of the tongue. It is impossible to remove these bacteria with a toothbrush without causing the patient to gag. To achieve this, a metal tongue scraper is required. For proper technique, view the online video on the importance of cleaning your tongue (see Footnote 1). For more information on how to further disinfect the mouth, an online video is available on the most effective, least expensive mouthwash (see Footnote 1).

Emphasizing the keys to success is an integral part of the initial examination. The goal/objective of getting to an MMPPI score of <5 does not happen without complying with all 5 of the keys to success (Fig. 1.1). If at periodontal maintenance the MMPPI score is elevated, the keys to success need to be reviewed to see in what area the patient is not compliant. For example, has the patient started smoking again?

Important Note on "Keys to Success": *As indicated in the title, this index is a periodontal report card. To further motivate the patient at the initial exam, taking a moment to give the patient a posttreatment target score has been found to be particularly motivational. The mnemonic phrase "If you want to keep your teeth alive, keep your MMPPI score below a 5" summarizes in lay-terms the objective of the target score. The patient should be scored at each maintenance appointment. Scoring even healthy patients demonstrates to the patient your concern for their overall oral health and reinforces the importance of periodontal maintenance in keeping their MMPPI stable. Thus the patient is more likely to accept aesthetically enhancing procedures such as veneers or periodontal plastic surgery. Although periodontal disease is a major cause of tooth loss, caries remains a significant factor, especially with the rising incidence of root caries. Today patients are on many more medications than in the past. Many of these medications cause dry mouth* (i.e., *medication-induced xerostomia, MIX), which is a major cause of root caries.*

1.3 Case Examples

1.3.1 Clinical Case Example #1: Using the MMPPI in a Periodontally Healthy Patient (Amy: MMPPI Score at Initial Exam = 1): See Figs. 1.2, 1.3, 1.4 and 1.5

Amy presents to our periodontal practice (RAL) as a healthy (HbA1c <6% = 0) non-smoking (non-smoker = 0) 32-year-old female (age < 39 = 0) and a history of good compliance to preventative periodontal care at every 6 months frequency with her

Fig. 1.2 Case #1: patient presents upon referral as a 32-year-old healthy, non-smoker for periodontal plastic surgery for root coverage #24 and 25. Surgical treatment performed by Dr. Robert Levine

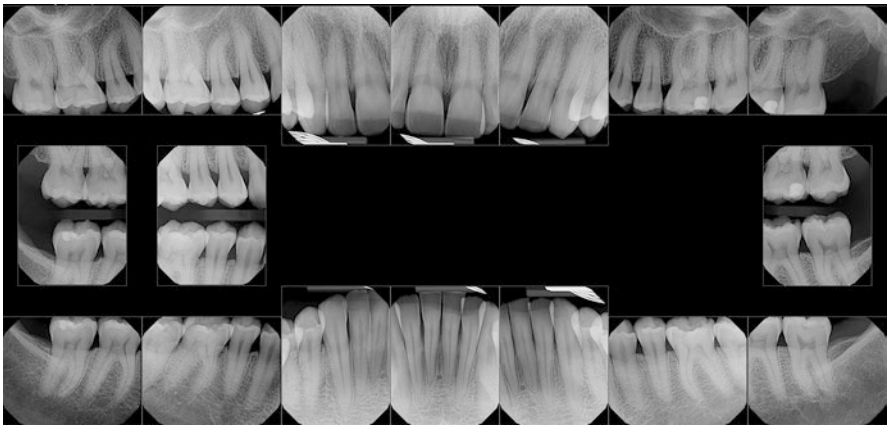

Fig. 1.3 Case #1: FMX

restorative dentist. She was referred for periodontal plastic surgery for root coverage #24 (Miller Class 2) and #25 (Miller Class 1) [11–16] (Figs. 1.2 and 1.3). A complete periodontal charting was completed as part of the initial periodontal examination including probing depths, mobility of teeth, gingival recession, and occlusion. The summary of this visit is noted in her MMPPI that was reviewed "knee-to-knee and eye-to-eye" with her (Fig. 1.4). Her deepest periodontal probing depth was 4 mm on the distal of #3 (see Fig. 1.1: probing mm <5 mm = 0) with light bleeding upon probing. The scored tooth #3 had no mobility (zero mobility = 0), and a total MMPPI score was recorded as 1 (15-year periodontal prognosis of 98% and 30-year periodontal prognosis of 94%). As noted prior, the 15- and 30-year periodontal prognosis advised the patient of an excellent long- term prognosis of not losing her teeth *due to periodontal disease*. However, there is still the possibility of losing these two teeth due to continued attachment loss, root caries, and its sequela. The use of the MMPPI in Amy's case is *highly motivational for four reasons*: she leaves the initial visit with our office with positive news on her overall case

Miller-McEntire Periodontal Prognosis Index

Tooth	# 3	#	#	#
Date	10/10/17			
Furcation	0			
Diabetes	0			
Mobility	0			
Probing Depth	0			
Molar Type	1			
Age	0			
Smoking	0			
TOTAL	1			
15 Year Prognosis	98%			
30 Year Prognosis	94%			

*Our goal is a score of less than 5

Score	15 Year	30 Year	
1	98%	94%	Excellent
2	97%	93%	
3	96%	89%	
4	95%	85%	
5	93%	80%	Good
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Smoking increases your chance of losing teeth to periodontal disease by 246%

Furcation
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1 = 1
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3 = 3
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A1C Levels
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6.1 - 7.0 = 1
7.1 - 8.0 = 2
8.1 - 9.0 = 3
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Mobility
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Probing (mm)
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5 - 7 = 1
8 - 10 = 2
> 10 = 3

Molar Type
Mand = 0
Max 1st = 1
Max 2nd = 2

Age
1 - 39 = 0
> 40 = 1

Smoking
Non-smoker = 0
Smoker = 4

Keys to Success:

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- Control your blood sugar (if diabetic)
- Stop smoking or at least cut back to under 5/day

Fig. 1.4 Case #1: MMPPI at initial periodontal consultation visit shared with the patient

Fig. 1.5 Seven month post-op of completed autogenous palatal subepithelial connective tissue graft for root coverage using a combination of the tunnel technique (#25) with lateral sliding pedicle flap (#24) and adjunctive patient's PRGF (plasma-rich growth factors) and Emdogain® (Straumann USA, Andover, MA). Near 100% root coverage was achieved with significant thickening of buccal soft tissues from #23 to 26. Surgical treatment performed by Dr. Robert Levine

prognosis from a periodontal perspective (MMPPI = 1); it reinforces her restorative dentist's referral for the recommended root coverage procedure; it motivates her to complete our combined recommendation of periodontal plastic surgical procedure for root coverage for teeth #24 and 25; and lastly it stresses the importance of continued periodontal maintenance visits with her dentist at his/her recommended frequency to keep her MMPPI below a 5. After discussing her MMPPI score of 1 and her excellent prognosis for 15 and 30 years, Amy shared with us that initially she thought that her "gum recession was the beginning of a cascading downhill course for herself from a dental standpoint." After presenting her an excellent case prognosis, we then gave her the solution to her site-specific periodontal problem with the benefits of thickening the gingival tissues, widening the zone of keratinized gingiva with attempts at partial to 100% root coverage, thus improving the long-term prognosis of #24 and #25 [11, 16]. The clinical goal of 100% root coverage in a Miller Class 1 or 2 is protecting these two teeth from future root caries and additional periodontal attachment loss while thickening the soft tissue which creates a more favorable barrier in preventing future gingival recession. Amy scheduled and completed the recommended treatment (Fig. 1.5). As part of discussion with Amy, we also shared the concerns that we see daily with medication-induced xerostomia (MIX) in our aging patient population. MIX relates to clinical concerns for recurrent caries or what we see frequently in the non-compliant patient of multiple areas of deep interproximal or buccal root caries. As our healthy patients age, many will be given medications for systemic diseases such as HTN, diabetes, anxiety, depression, asthma, etc. which will have significant detrimental effects on exposed root surfaces such as seen in Amy's case. Thus, this needs to be shared with a patient like Amy as their medical status may change as they grow older along with their

systemic health and medications. These medications will significantly increase their susceptibility to MIX and subsequent root caries. This concern is illustrated in Case #2. Sadly, many in the medical profession are unaware of the harmful oral side effects caused by numerous medications they routinely prescribe. In all patients we recommend and stress the importance of the "Keys to Success" (bottom right of the MMPPI form) with good compliance to plaque control and their recommended periodontal maintenance frequency which in Amy's case is twice a year with her general dentist [17–20].

1.3.2 Clinical Case Example #2: Using the MMPPI in a Beginning to Moderate Periodontitis Patient (Michael: MMPPI Score at Initial Exam = 7): See Figs. 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13 and 1.14

Michael presents to our periodontal practice (RAL) referred by his wife, who had completed periodontal therapy under our care (for generalized moderate to localized advanced periodontitis). *Michael's wife, who had initially scored MMPPI of 5, had recently completed full-mouth LANAP* (laser-assisted new attachment procedure) *therapy in one visit under local anesthesia. This underlines one of the major benefits of routinely using the MMPPI and the power that the MMPPI has with referral of family and friends* to your practice for the treatment of periodontal diseases. This is a win-win outcome. Michael is a 58-year-old (>39 = 1), generally healthy: ASA II and a HbA1C <6% (<6% = 0), non-smoker (non-smoker = 0) with generalized bleeding upon probing, and probing depths up to 6 mm in the maxillary posteriors and up to 7 mm in the mandibular molars (Fig. 1.6). Michael reports

Fig. 1.6 Case #2: Michael, an RN, presents upon referral by his family member (wife) as 58-year-old generally healthy, non-smoker for initial periodontal therapy to treat generalized beginning to moderate periodontitis which was not under control per the patient as he was frustrated with his prior failing dental work and poor communication skills of his previous dentist and team members

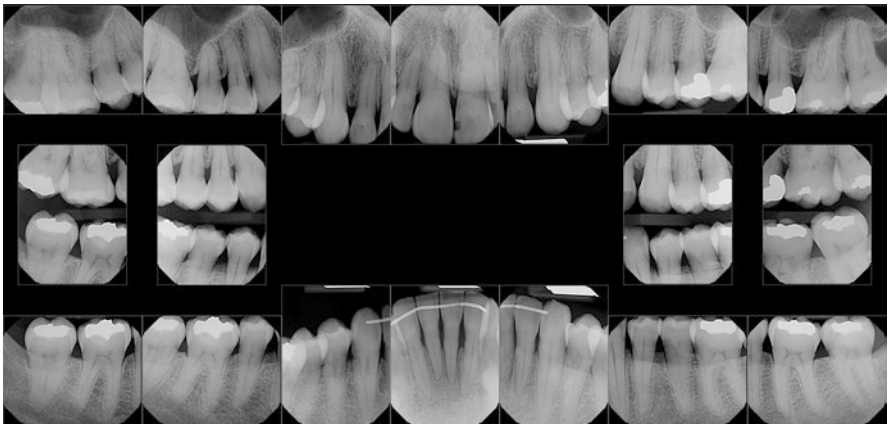

Fig. 1.7 Case #2: initial FMX

a history of good compliance to preventative periodontal care at every 4–6 months with his restorative dentist's office but was very frustrated that his "gums do not feel or appear healthy" to him. Medically he presents with HTN, anxiety, obsessive-compulsive disorder (OCD), arthritis, seasonal allergies, and high cholesterol and premedicates for a recent knee replacement. He is a practicing RN at a local VA Hospital and is very health conscious. Michael is presently on six different medications to treat his systemic diseases that are all associated with MIX/dry mouth which he admits to (Lisinopril, HCTZ, Norvasc, Lorazepam, Benadryl, and Claritin). The only significant mobility in his mouth was tooth #2 which recorded a 1 degree mobility (mobility 1 = 1). Several areas of facial mucogingival recession with lack of attached keratinized gingiva were noted (buccal of teeth #11,20,21,28). Even though there were deeper probing depths of 7 mm in the interproximal areas of his lower molars from the lingual, it was decided to use tooth #2 to be scored (maxillary second molar = 2) as this molar presented with two total furcation invasions (furcations: 2 = 2): buccal (Class 1) and mesial (Class 2) along with a Class 1 mobility (mobility: Class 1 = 1). The next worst MMPPI score would be tooth #31 (mandibular molars = 0) and presented only with a buccal Class 1 furcation (furcation = 1), no mobility (mobility = 0) probing depth of 7 mm (5–7 mm = 1), and age at 58 (age, >39 = 1) for a total MMPPI score of 7. *As all mandibular molars have a 0 score at the outset, it is best to use a maxillary molar if it is involved periodontally and has any mobility and possible furcation(s) to have an increased initial score,* and thus hopefully with the patient adhering to the "Keys to Success," a more dramatic MMPPI score reduction will be seen posttreatment. Michael's recommended treatment plan involved full-mouth nonsurgical therapy (scaling and root planning) with local anesthesia in one visit with a registered dental hygienist (RDH), occlusal adjustment of #2, in conjunction with 1 week of oral antibiotics (amoxicillin 500 mg with metronidazole 250 mg for 1 week TID) [21]. The patient is seen posttreatment with an emphasis on plaque control

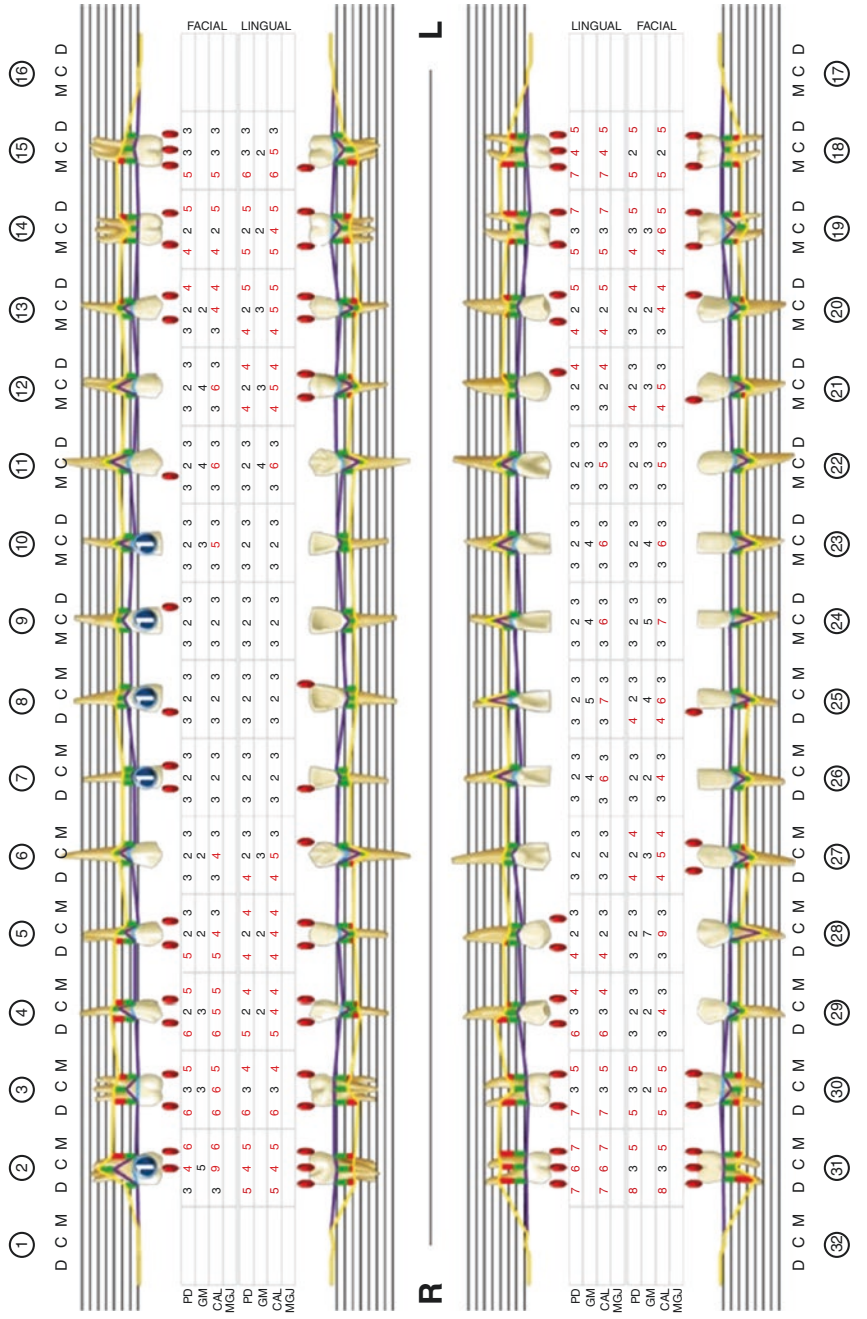

Fig. 1.8 Case #2: initial periodontal charting

Miller-McEntire Periodontal Prognosis Index

Tooth	# 2	#	#	#
Date	11/1/17			
Furcation	2			
Diabetes	0			
Mobility	1			
Probing Depth	1			
Molar Type	2			
Age	1			
Smoking	0			
TOTAL	7			
15 Year Prognosis	86%			
30 Year Prognosis	66%			

*Our goal is a score of less than 5

Score	15 Year	30 Year	
1	98%	94%	Excellent
2	97%	93%	
3	96%	89%	
4	95%	85%	
5	93%	80%	Good
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10	67%	33%	
11	53%	22%	

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Furcation
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8.1 - 9.0 = 3
> 9.1 = 4

Mobility
None = 0
1 = 1
2 = 2
3 = 3

Probing (mm)
< 5 = 0
5 - 7 = 1
8 - 10 = 2
> 10 = 3

Molar Type
Mand = 0
Max 1st = 1
Max 2nd = 2

Age
1 - 39 = 0
> 40 = 1

Smoking
Non-smoker = 0
Smoker = 4

Keys to Success:

- Brush, floss, and clean your tongue daily
- Complete recommended treatment
- Adhere to the recommended maintenance schedule
- Control your blood sugar (if diabetic)
- Stop smoking or at least cut back to under 5/day

Fig. 1.9 Case #2: MMPPI at initial periodontal consultation visit; scored tooth #2 with initial MMPPI of 7

Fig. 1.10 Case #2: posttreatment (ScRP w/ systemic antibiotics for 1 week) at 3 months

Fig. 1.11 Case #2: posttreatment buccal mirror views noting several mucogingival concerns (especially #28) that are discussed with the patient as he presents with MIX and potential for root caries as he is on six medications that will contribute to dry mouth

Fig. 1.12 Case #2: posttreatment buccal mirror views noting several mucogingival concerns (especially #28) that are discussed with the patient as he presents with MIX and potential for root caries as he is on six medications that will contribute to dry mouth

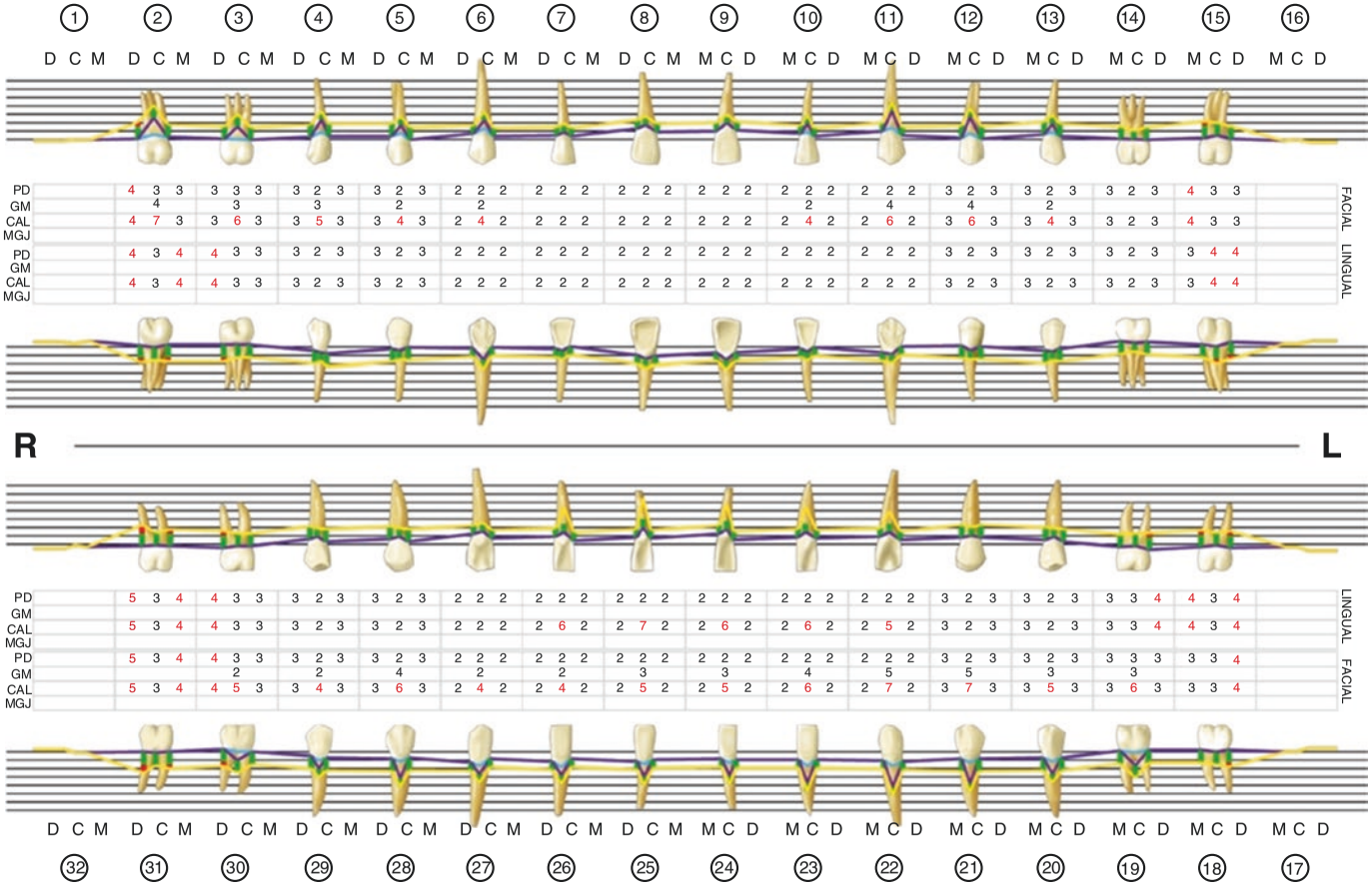

Fig. 1.13 Case #2: posttreatment periodontal charting

Miller-McEntire Periodontal Prognosis Index

Tooth	# 2	# 2	# 2	#
Date	11/1/17	2/7/17	7/11/18	
Furcation	2	-	-	
Diabetes	-	-	-	
Mobility	1	-	-	
Probing Depth	1	-	-	
Molar Type	2	2	2	
Age	1	1	1	
Smoking	-	-	-	
TOTAL	7	3	3	
15 Year Prognosis	86%	96%	96%	
30 Year Prognosis	66%	89%	89%	

*Our goal is a score of less than 5

Score	15 Year	30 Year	
1	98%	94%	Excellent
2	97%	93%	
3	96%	89%	
4	95%	85%	
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8.1 - 9.0 = 3
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Mobility
None = 0
1 = 1
2 = 2
3 = 3

Probing (mm)
< 5 = 0
5 - 7 = 1
8 - 10 = 2
> 10 = 3

Molar Type
Mand = 0
Max 1st = 1
Max 2nd = 2

Age
1 - 39 = 0
> 40 = 1

Smoking
Non-smoker = 0
Smoker = 4

Keys to Success:

- Brush, floss, and clean your tongue daily
- Complete recommended treatment
- Adhere to the recommended maintenance schedule
- Control your blood sugar (if diabetic)
- Stop smoking or at least cut back to under 5/day

Fig. 1.14 Case #2: posttreatment MMPPI; scored tooth #2 with MMPPI now reduced to 3

reinforcement and follow-up deplaquing visits every 3 weeks for 3 months with a registered dental hygienist with full-mouth polish and prophylaxis. This is the same protocol we use for our LANAP patients. This protocol helps us in reinforcing the importance of all the "Keys to Success" in the patient's mind and gets them to participate as a "co-therapist" in their oral health outcomes [2]. Michael was seen 3 months' post-scaling and root planing for his first preventative periodontal maintenance visit when a new full-mouth periodontal charting was completed with tooth mobility being measured and an updated MMPPI (using tooth #2) reviewed with him. *His posttreatment MMPPI score was reduced from an initial score of 7 to a posttreatment score of 3* at 3 months (age > 39 = 1), scored tooth #2 (maxillary second molar = 2), probing depths was reduced to 4 mm associated with #2 (probing depths <5 mm = 0), #2 mobility was reduced to 0 (mobility 0 = 0), and the 2 furcations associated with #2 at presentation were now not probable (furcation 0 = 0). His updated MMPPI score of 3 puts him in the "excellent" periodontal prognosis category (<5 MMPPI score) with a 15- and 30-year prognosis of 96% and 89%, respectively (Fig. 1.13). In addition to the new MMPPI score of 3, we reviewed the importance of the "Keys to Success" for long-term success. His plaque control at the 3-month reevaluation was excellent. Discussions of our continued concerns with facial attachment loss and future dental caries susceptibility were addressed, and we decided together that we will reevaluate at each subsequent 3-month preventative periodontal maintenance visit for future periodontal plastic surgery. The goals of future periodontal plastic surgery would be partial to complete root coverage (starting with buccal sites #11, 20,21,28) that presented with Miller Classifications of Class 1 (#11), Class 2 (#20,21), to Class 3 (#28) [11]. Michael was very appreciative of the time we took to review his updated MMPPI and the benefits to him of knowing his periodontal prognosis along with the "Keys to Success" and concerns with his MIX which needs to be continually discussed and reinforced [19, 20].

The next two cases represent theoretical case reports for teaching purposes using Dr. Miller's original MMPPI score sheet and his present-day clinical recommendations for treatment.

1.3.3 Clinical Case Example #3 (Theoretical)

The MMPPI as noted prior provides supplemental health information that aids the physician in determining a medical diagnosis. This is especially true in diabetes mellitus. Linda, a 29-year-old overweight female, had a periodontal diagnosis of severe generalized gingivitis. Her chief complaints were bleeding gums and malodor (halitosis). The tissue was highly inflamed and enlarged, and there was spontaneous severe bleeding on probing. Although there was no attachment loss, probing depths were an average of 5 mm because of the swollen tissue. Although the patient denied being diabetic, her mother and three aunts had been diagnosed with diabetes mellitus. Because of the strong family history in clinical findings, an in-office HbA1c test was performed, and the HbA1c score was 8.7. Although the HbA1c score indicates that the patient has diabetes mellitus, diabetes is a medical

diagnosis, and the patient should be referred to a physician to make the actual diagnosis. Additionally, the patient smoked two packs of cigarettes a day. Her MMPPI score was 11, which indicated that she had only a 53% chance of keeping her teeth for 15 years even though at this point she has no attachment loss. If the patient will follow the 5 "Keys to Success," she can lower her MMPPI score to a 3 and have a 96% chance of keeping her teeth for 15 years (Table 1.1).

1.3.4 Clinical Case Example #4 (Theoretical)

In an aging population, more senior citizens are seeking in-depth dental care including advanced periodontal therapy. George, a 78- year-old male, was diagnosed with severe generalized periodontitis with numerous probing depths more than 7 mm with multiple furcation involvements. The tissues were more fibrotic than hemorrhagic and bleeding on probing was moderate. *He indicated that he was diagnosed with diabetes mellitus 25 years prior and declined an in-office HbA1c test; therefore a score of 2 was used for diabetes in accordance with the MMPPI protocol.* Even though there was slight mobility of #14 (mobility 1), clinically it was felt that this was not remarkable. In this modern era, many patients with this perceived poor prognosis will elect to have their teeth removed in favor of an implant-supported prosthesis. Surprisingly, the MMPPI pre-op score was an 8, indicating that with treatment the patient has an 81% chance of keeping his teeth for 15 years.

Although periodontal health can be improved with nonsurgical treatment, because the tissue response was fibrotic rather than hemorrhagic, only minimal pocket reduction would result, and there will be residual calculus. This patient

Table 1.1 Theoretical Case #3: MMPPI for a 29-year-old female (Linda) who is a 2-pack/day smoker with severe generalized gingivitis and generalized 5 mm probing depths with heavy bleeding upon probing

Tooth	#14 (pretreatment)	#14 (pretreatment)
Age	–	–
Smoking	4	–
Diabetes	3	1
Molar type	1	1
Probing depth1	1	–
Furcation	–	–
Mobility	2	1
Total	11	3

There is a strong history of diabetes in her family and an in-office HgA1c test revealed it to be 8.7%. The pretreatment MMPPI = 11. Theoretically, the patient went through periodontal and occlusal therapy, quit smoking, lowered her HgA1c which resulted in a posttreatment MMPPI = 3. *This shows the power that the MMPPI has increasing patient periodontal case acceptance while helping them to improve their periodontal, social (quit smoking), and medical (lowering HgA1c) status of our patients*

Table 1.2 Theoretical Case #4: MMPPI for a 78-year-old male (George) who is non-smoker with severe generalized periodontitis and generalized >7 mm probing depths with heavy bleeding upon probing

Tooth	#14 (pretreatment)	#14 (pretreatment)
Age	1	1
Smoking	–	–
Diabetes	2	1
Molar type	1	1
Probing depth	2	1
Furcation	1	1
Mobility	1	–
Total	8	5

He has a history of diabetes and is not aware of his HgA1c score. The pretreatment MMPPI = 8. Theoretically, the patient went through periodontal and occlusal therapy, lowered her HgA1c which resulted in a posttreatment MMPPI = 5. *This case again shows the power that the MMPPI has in increasing patient periodontal case acceptance while helping them to improve their periodontal and medical (lowering HgA1c) status of our patients*

would respond favorably to one-visit (LANAP) therapy or conventional periodontal surgery for pocket reduction reducing the MMPPI score to a 5 (Table 1.2).

As stated earlier, by making the patient aware of the possible post-therapy prognosis, the authors have found that patients are both pleased and surprised by what can be accomplished with periodontal therapy. This has proven very motivational in getting patients to accept and complete treatment, as well as becoming a compliant maintenance patient. Since smoking has the most negative impact on periodontal prognosis out of all the factors scored, some level of smoking cessation counseling should be provided to the patient (see Footnote 2).

1.4 Conclusions

For far too long, dentists have presented a treatment plan to the patient based on their personal opinion, procedures that they prefer to perform, or those that are economically rewarding. Patients deserve treatment options based on evidence-based research which is statistically validated. The MMPPI fulfills those requirements. When using this index, the patient can then properly evaluate treatment options. Patients with gingival defects including recession and any periodontal disease from a slight gingivitis to advanced periodontitis deserve the opportunity to accurately determine how periodontal therapy can impact them. Scoring allows the patient to select the best treatment options and decide if they want to keep their natural teeth. The MMPPI provides that information as the patient becomes a "co-therapist" in the decision process. With this better understanding, a higher percentage of patients will accept treatment; the patients become more compliant in all phases of treatment and see the rationale for lifestyle changes that improve their oral health and their overall systemic health. This forthright and honest approach has proven very motivational in convincing patients to accept and comply with treatment. When shared with family and friends, for the first time, we have a successful way of getting patient referrals. Using the MMPPI we can

become more of a physician of the mouth rather than just simply doing the mechanics of dentistry. In short, every new patient should be scored (see Footnote 1).

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