

Periodontal Home Care: Dr. Katayama's Holistic Approach to Gum Diseases

Nobo Komagata
PA7H.org

April 24, 2017; Minor correction/revision: December 4, 2017

»»» Dedicated to Dr. Tsuneo Katayama (1910 - 2006) «««

Introduction

One of the most common reasons for adults to lose teeth is gum diseases. In fact, the majority of adults must have experienced some forms of gum diseases. To deal with the condition, a motivated patient would see a periodontist regularly, e.g., every three months.

However, seeing dental professionals may not really solve the problem because the most important and essential part of dealing with gum diseases is home care. There are several problems associated with this. First, dental professionals do not have a very effective means to monitor and enforce proper home care. Second, beyond the basic dental home care, very little information, esp. for patients, is available about specifically how to deal with periodontal conditions. As a result, a huge number of periodontal patients seem to be losing the game.

Although virtually unknown outside Japan, there is an extremely effective approach to periodontal home care. This approach was developed by Dr. Tsuneo Katayama (1910 – 2006), a Japanese periodontist with over fifty years of clinical and research experience. The “Katayama method” is complex and time-consuming, esp. at the beginning. Although I cannot claim that I was able to practice this method perfectly, I can surely attest the effectiveness of the method. Through nearly thirty years of following the method, I no longer fear gum diseases at all. I could even say that I am practically “healed.” Now, I am eternally grateful to Dr. Katayama for sharing his method in his book (Katayama, 1990; the method was also introduced earlier in Asahi Shinbun-sha, 1987). In return, I am trying to share the basics of the Katayama method and my experience in this essay, which is dedicated to Dr. Katayama.

While the Katayama method emphasizes all aspects of gum disease care including toothbrushing, nutrition, and professional care, this essay focuses on the brushing aspect. For the nutritional aspect, there are some other books with useful information, including one by Weston Price (1939). It is dated but contains a lot of still valuable information. With respect to professional care, unfortunately, it would be almost impossible to find outside Japan a

periodontist/dentist who is aware of the Katayama method. So, we, the patients, must proceed as such. I hope that the situation will change some day.

Disclaimer: This essay presents information mainly based on the book by Dr. Katayama along with the author's own experience. The readers, not the author, is solely responsible for using the information in this essay. The readers must consult their dentists, periodontists, and/or other dental/medical professionals who are willing to help them.

Gum Diseases: The Very Basics

Before proceeding, here is a very basics of gum diseases (as a starting point, visit: <https://en.wikipedia.org/wiki/Periodontitis>). Probably the worst symptom would be the pain that may persist all the time. The pain may not be very sharp but it will be unbearable as it worsens. It will also be painful when biting/chewing; so hard foods cannot be eaten very easily. At this stage, the affected teeth must be loose. A substantial part of the bone surrounding the affected teeth must be dissolved; the main characteristic of periodontitis. The Wikipedia page contains some sample X-rays to show this. Depending on the level of bone loss, most periodontists would have no choice but extracting the affected teeth.

Even when there is little pain, there may well be the following symptoms: bleeding from the gum (especially when biting hard foods), reddish and swollen gum, bad breath, etc. At this stage, there may or may not be bone loss. The condition of gum redness/swelling is referred to as gingivitis, a preliminary stage of periodontitis.

The progress of periodontal diseases can be very slow, taking months or years to develop noticeable symptoms. However, under certain circumstances, the condition worsens even within a few weeks.

The most commonly cited cause of periodontitis is the behavior of certain micro-organisms. However, as will be discussed later, this alone does not necessarily explain everything.

Conventional Approaches and Their Shortcomings

As in the case of many illnesses, gum diseases manifest under complex circumstances. As such, they need to be treated with extreme care. The mainstream approach to gum diseases would be as follows. If the condition is bad, e.g., the periodontal pocket depth (the amount of bone loss) is, say, more than 50% of the healthy level, the affected tooth needs to be extracted. This would end up in various challenging situations: an implant (if the supporting bone tissue is strong enough), a bridge (if the surrounding teeth are firm), a partial denture, etc. Of course, none of these are desirable; there will be a lot of cost in many respects. Furthermore, if one tooth is extracted due to gum diseases, it is most likely that the surrounding teeth are affected as well. So, the additional force to support a bridge or a partial denture may weaken the

supporting teeth as well. Then, even after a lot of work, the remaining teeth too may follow the same fate.

If the tooth can be saved, the maintenance might involve surgery under local anesthesia to clean the area deep inside the periodontal pocket. Even if surgery is not required, it will certainly involve regular checkup and cleaning, typically every three months by a professional. The cleaning will include “scaling,” which scrapes the tooth surface beneath the gum line, mechanically or using an ultrasonic device.

The periodontist will encourage the patient to do the best home care possible. However, very few periodontists have practical means and enthusiasm to monitor the home care. Without proper home care, the periodontal conditions are guaranteed to worsen. Unfortunately, surgery and scaling alone will not be able to save this. Another fact is that none of the periodontists I saw took photos of gum conditions. How could they keep track of the progress without such important information?

So, in many cases, the patients will lose their teeth one by one. Without proper home care, the prognosis is grim.

The Katayama Method: Introduction

Now, here is a really good news. It is indeed possible to stop and even heal very severe cases of gum diseases with the Katayama method. The bad news is that, as far as I know, this method is totally unknown outside Japan.

The Katayama method of healing gum diseases is a holistic approach in that every relevant aspect is addressed. This includes the professional care, the home care, the nutrition, and the life style.

The professional care includes correctly identifying the state of the periodontitis and gingivitis, including taking photographs and X-rays of the periodontal condition. However, even more important aspect is to educate the patient about the holistic approach and actually monitor and assess the home care. The nutritional aspects of the Katayama method is strongly influenced by Dr. Price’s book (1939). In fact, Dr. Katayama translated the book into Japanese and self-published it in Japan. The basic idea is that the modern, “convenient” foods (including a lot of sugar) invite and aggravate gum diseases. As for the life style, Dr. Katayama suggests the following. When the periodontal conditions are severe, the patient is advised to take several days off from work (and any stressful activities) and spend much of the days to learn and practice the Katayama method. Even after that, the patient is still advised to spend a substantial amount of time brushing their teeth. But in order to make this practice realistic, the patient is asked to come up with a way to brush while doing somethings else, e.g., watching the TV, listening to music, reading a book, etc. Some additional factors include the following: insufficient chewing, grinding, mouth breathing, smoking, and overall health.

Now, the focus of this essay is tooth brushing. Since the tooth brushing technique of the Katayama method is fairly complex and greatly depends on the state of gum disease, a lot of pages of Dr. Katayama's book are dedicated to explain this thoroughly. This essay is absolutely no substitute for that and will only be able to scratch the surface. Nevertheless, I thought that it would be valuable for the people outside Japan to become aware that there is an amazing approach to gum diseases which largely depends on brushing teeth. So, I will try my best to describe it, occasionally referring to my own experience.

Dr. Katayama views that gum diseases are mainly caused by the combination of unhealthy gum and harmful micro-organisms. So, if we can strengthen the gum and disable the micro-organisms, it must be possible to stop the diseases and can even lead to healing. Note that the relevant micro-organisms are anaerobic (i.e., they don't like oxygen). Thus, disturbing them with even soft bristles will be effective. In addition, by cleaning teeth, esp. below the gum line, the micro-organisms will be starved of their food source. Even though the principle is quite simple, the tricky part is how to accomplish and keep doing it. So, the patient must be sufficiently motivated to do this. For example, I had lost seven teeth between the ages of 22 and 32 due to periodontitis. I knew that I could not afford to lose more teeth at this pace. It was toward the end of this 10-year period when I first learned the existence of the Katayama method. I was determined by that time.

Even outside Japan, gum stimulation receives some attention. There even are commercial products to for that purpose. However, the way Dr. Katayama integrates gum strengthening is more essential and systematic. The importance of this can be inferred by the information in Dr. Price's book (1939). Dr. Price observed that tribal with little contact with the modern civilization are virtually free from cavities or gum diseases even without intentional oral hygiene (e.g., tooth brushing). Dr. Katayama hypothesized that eating hard foods has a natural effect of strengthening the gum.

Since the Katayama method mainly relies on the home care, the patient must be responsible. This is especially true when we do not have access to periodontists familiar with the Katayama method. The procedure involves fifteen to sixty (!) minutes of brushing teeth after each meal, depending on the condition. So, it is only for committed patients. Also, the procedure is fairly complex. Thus, it is only for those who can understand the concepts and procedures very well.

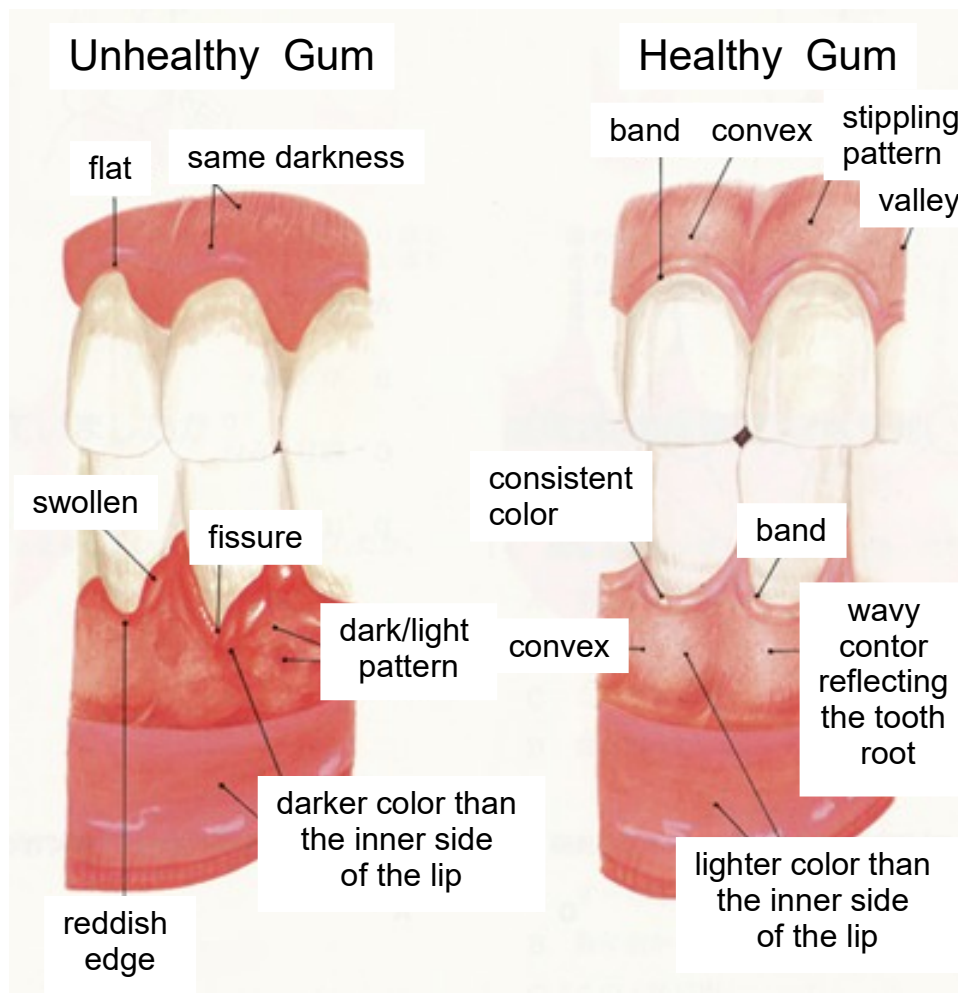
There is one more point. My experience is that many experts tend to cling to the status quo and extremely reluctant to accept new information. As such, I can imagine that many periodontists and dentists would be quite skeptical about the effectiveness of the Katayama method. Since they have not seen or have first-hand experience, this may be natural. However, we cannot be blind to the vast clinical data that support the Katayama method. Even if it takes a lot of effort, if it delivers benefits that no other existing methods can provide, I think that it is worth trying. It is entirely up to us whether to take advantage of it.

Three Recovery Stages

The description of the recovery process in Dr. Katayama's book is very detailed and fairly complex. For this essay, I present *my* understanding in a radically simplified view. I still hope that the essence of Dr. Katayama's approach is still recognizable and helpful for some people.

One crucial aspect of Dr. Katayama's brushing procedure is that it will change as the condition improves. Since I cannot go over all the details here, I focus only on three stages: Acute, Non-acute, and Maintenance. Note that these stage names/labels are *my own*, adopted specifically for this essay.

At this point, it must be helpful to see a few visual materials used by Dr. Katayama. First, here is an image of comparison between unhealthy and healthy gums taken from Dr. Katayama's book (1990) with my translation of the description (presumably within the domain of "fair use").



For now, we can just focus on our overall visual impression: unhealthy gum looks reddish and

swollen. As we go through stages, we can refer back to the above image. Then, here are two photos from the web site maintained by a Japanese non-profit organization inspired by Dr. Katayama (http://koushikai.s1.valueserver.jp/index.php?E_Photos#content_1_6 as of April 2017, again, presumably within the domain of “fair use”).



Photo 1 corresponds to the Acute stage at the initial consultation of a 32-years-old patient and Photo 2 corresponds to the Maintenance stage after 3 years. There are more photos available on the web site. Note that we are not concerned about the tooth color. While the teeth in Photo 1 look whiter and thus desirable, our focus here is the gum condition. We will briefly comment on this point toward the end of the essay.

Before proceeding, here is a summary of the three recovery stages. Each of these stages will be discussed in the sections below.

	Stages		
	Acute	Non-Acute	Maintenance
Symptoms	On-going pain, bleeding, redish/swollen gum, looseness of teeth, bad breath	Slight pain while biting, light pink gum, looseness (still), bad breath	Healthy gum/teeth
Tools	Paint brush	Very soft toothbrush with 1 or 2 rows	Regular toothbrush
Target duration for the stage	Weeks	Months to Years	Lifetime
Target brushing time (after each meal)	30 minutes to 1 hour	15-30 minutes	5-15 minutes
Corresponding photo	Photo 1		Photo 2

There are a few caveats about the above summary. First, there may be a mixture of different stages at different locations in a single person's mouth. In that case, each location may require different types of brushing with different tools. Second, whether the condition improves at all and how long it would take to progress will depend on many factors. So, the timing in the table is only a very rough estimate under a reasonable condition. Also, the brushing time is not at all rigid. The patient will need to find out what is necessary and appropriate.

The Acute Stage

Some of the symptoms during the Acute stage include: On-going pain (maybe dull but can persist all the time), bleeding (esp. when biting hard foods), redish/swollen gum (often with pus coming out), looseness of teeth (often easily noticeable), and bad breath (often easily identified by other people). A typical gum condition can be seen in Photo 1. Although invisible, the affected teeth must have experienced substantial bone loss.

First of all, Dr. Katayama warns about bleeding as a serious issue. It can lead to dangerous infections (this is one reason why gum and GI/other diseases are related). So, we need to avoid bleeding by all means. In his book, Dr. Katayama introduces a way to treat bleeding with solution including salt and a type of Japanese tea. I myself have not actually tried it and thus cannot comment on it at all. This is something people might want to consult with their dental professionals.

Even at this stage, it is necessary to brush teeth. Again, the first reason is to strengthen the gum so that it becomes healthy and be able to resist gum diseases, and the second reason is to disable the micro-organisms. Thus, the main challenge is to brush without causing bleeding. Even the softest commercially-available toothbrushes would be too hard and will damage the weakened gum. This is where Dr. Katayama's ingenuity shines. He suggests to use a small paint brush made of a synthetic material (avoid animal hair). Such a brush can easily be found at an art store.

Since the gum is in a very poor condition, brushing must be extremely gentle; just the minimal to extremely gently stimulate the gum and disable the micro-organisms *without bleeding*. At the very first step, we position the paint brush *above* the gum line so that the paint brush does *not* actually contact the gum. To see the positioning well, we may need to use a small hand mirror or stand in front of a bathroom mirror. Then, just "vibrate" the paint brush sideways (parallel to the gum line) slowly and only slightly, still not touching the gum. This will *not* stimulate the gum but it will clean the tooth surface and remove the food source for the micro-organisms. We need to make sure that we can first clean the tooth surface without bleeding. Most importantly, this will become the training session for the next step to come.

Now, soft brushes are not as efficient as harder brushes in terms of cleaning. So, it will take longer to clean the tooth surface. A very rough target time for cleaning all the teeth this way would be 30 minutes to one hour *after each meal*. People may think this as ridiculously time-

consuming. It may be so; if we cannot spend that much, we can just try our best. The bottom line is to imagine that this be the best approach to gum diseases when nothing else might work. The only things we need are: the correct information, a paint brush, and patience.

Once we get used to this step by practicing it for a few days, we can move to the next step. This is the crucial step. We will position the paint brush closer to the gum. We will let the paint brush touch the gum to the extent that it is neither painful nor bleeding. The tip of the paint brush can be positioned perpendicular to the tooth surface. Again, extremely gently and slightly “vibrate” the toothbrush sideways (parallel to the gum line). Continue to make sure that there is little pain or bleeding. Do this for all the teeth. It will take a lot of time.

If we continue this for, say, several days without bleeding, we will be able to see the first sign of improvement. The redness and swelling of the gum must be reduced. If there is pain or bleeding, brushing is too hard. If there is no improvement, the paint brush may not be contacting the gum line properly. We need to learn the appropriate level by try-and-error.

In the next step, we will change the angle of the paint brush and attempt to point the tip of the brush *very minimally* below the gum line. The angle of the paint brush will be slightly different, pointing toward the gum pocket. Still, the direction of the vibration is parallel to the gum line. Continue this for several days and then, we can increase the amount of the paint brush inserted below the gum line. If the pocket depth below the gum line is up to, say, 3 millimeters, it would be possible to reach the bottom of the pocket with the paint brush. But at this Acute stage, the pocket depth may be 5mm or more. Then, it would be probably impossible to reach the bottom. We could just try to increase the amount of reach extremely gradually over the order of weeks.

Still, all these must be done without pain or bleeding. After several weeks of successful brushing, it is possible that the gum look healthier. Instead of red and swollen, it may now look light pink and tighter. At least superficially, the gum may look more like that in Photo 2 than in Photo 1. Then, we can say that we are out of the Acute stage. Although the actual periodontal condition, e.g., the bone loss, may not have improved, this alone must be a significant improvement.

The Non-Acute Stage

At this stage, the worst symptoms of the gum disease must have subsided. However, the lost bone around the teeth will take months and years to regenerate ... only with proper care. So, the underlying periodontal condition is little changed. For this reason, this stage can also be referred to as “chronic” stage (as in Dr. Katayama’s book). I am using the term “non-acute” simply to avoid any potential confusion with the common use of the term “chronic” with respect to periodontitis.

The symptoms at this stage include the following: Slight pain while biting, light pink gum

(superficially much better than in the Acute stage), looseness of teeth (still but may be better), and bad breath. Unless there is some accidental insult to the gum, there won't be as much bleeding in this stage.

The goal of brushing during this stage is exactly the same as in the previous stage: strengthening the gum and disabling the micro-organisms. However, as the superficial improvement is substantial by this time, it is possible to use a regular toothbrush. The process will be more effective and efficient.

Still, we will need to choose *really* soft ones. Certain "soft" toothbrushes available in local retailers may not be soft enough. We may need to try a few different brands/types to find a good one. In addition, in order to access the gum line (and gradually below it), it would be *ideal* to use a toothbrush with only one or two rows. It is possible to purchase such a brush in Japan. However, it would be extremely difficult, if not impossible, to find one elsewhere. A practical approach would be to cut the outer one or two rows of three- or four-row toothbrush.

The first step is just to get used to the new tool. So, as in the first step of the Acute stage, we position the toothbrush just above the gum line and vibrate the brush sideways (parallel to the gum line). At this point, avoid contacting the gum. Brush all the teeth, spending at least 15 minutes. Once getting used to the new tool, we position the toothbrush so that it contact the gum line. Avoid pain and bleeding. Spend enough time to brush all the teeth.

After several days, we position the toothbrush so that the tip of the brush goes below the gum line very slightly. The angle of the brush will change. Make sure there is no bleeding. However, since the gum is now healthier, we can increase the tolerance of the gum slightly. We should still avoid pain. But we will be able to tolerate a small amount of sensitivity. In fact, it will be necessary to increase the tolerance very gradually. This is the tricky part. We must be able to learn the appropriate level by experimenting.

Once we learn how to do this, we can gradually increase the amount of toothbrush going below the gum line. But we need to do this very gradually. And, as in the case of the Acute case, it will be difficult to go any more than, say, 3 millimeters below the gum line. We need to accept that this stage can last months to years.

Also as we go through this stage, there will be some changes. The gum must look healthier and healthier, eventually leading to the condition seen in Photo 2.

If we are successful, almost all the symptoms of gum diseases will disappear over time. The teeth will be firmer. We will be able to bite hard foods. The bad breath may be gone all together. Another possible change during this stage is that the gum line may recede. As a result, some teeth may look longer and the pocket surrounding the tooth may become smaller. While some people hate such "elongated" teeth, the reduction of pocket is a good sign. With this reduction, we may be able to reach closer to the bottom of the pocket.

I think this Non-Acute stage is when we need to be patient. It is a very long process. We will not be able to see the change on a daily basis. However, if we monitor carefully (or even taking photos), we should be able to notice the change gradually. In the end, the improvement from the beginning of the Acute stage can be amazing. If I had been following the conventional approach to gum diseases, I would never have been able to experience this kind of progress.

The Maintenance Stage

Once we experience gum diseases at some point, we are susceptible to them. As such, any improvement can be reversed. In fact, the process will almost certainly a series of back and forth. So, we cannot just stop brushing. However, once we reach the end of the Non-Acute stage, i.e., healthy gum, we can expedite the brushing process by using a harder toothbrush. That is, soft or medium regular toothbrushes can be used for this stage.

We will still want to access below the gum line. For this, we may still want to use a modified one- or two-row toothbrush as in the Acute stage. However, the time spent for this procedure will be much reduced.

While the above procedure will still be required, the core of brushing will be more like “normal” tooth brushing. This is possible only because we have gone through the Acute and Non-Acute stages successfully and the gum is healthy now. Among various methods, Dr. Katayama recommends a modified Fones technique. The standard Fones technique (e.g., <https://www.youtube.com/watch?v=BB6CeOYzGKc>) will adopt a circular motion for all the teeth. Dr. Katayama’s modified Fones technique substitutes straight, vertical motion for the inner side of the teeth. I think this is because it is difficult to apply a circular motion for that side. Any way, this procedure too is to strengthen the gum and disable the micro-organisms. However, even at this stage, I still brush below the gum line using a simplified version of the brushing technique discussed in the Non-Acute stage.

The goal of this stage is to maintain the good health of the gum. If we can stay in this stage for years, it is actually possible that the bone surrounding the teeth will regrow. I have experienced this myself. As the bone regrow, the teeth become firmer and firmer. Eventually, we can experience the state where there is no symptoms of gum diseases. I would call this “healing.” However, since gum diseases can strike back, we will need to practice the Maintenance stage procedure for life.

Miscellaneous Points

In the previous sections, the three stages were described separately. However, it is possible that different areas of a single patient are in different stages. If that is the case, we need to treat each section accordingly.

Another aspect Dr. Katayama emphasizes is that the biting condition is extremely important. This is because if the biting is unbalanced, the teeth can receive force in a damaging way. This is especially so when there are loose teeth. So, although this essay does not touch upon this point, we will need to consult a dental professional about it.

Dr. Katayama wouldn't let his patients use toothpaste. He argues strongly that toothpastes are harmful. Since the Katayama method requires extensive brushing and the whitening "powder" contained in toothpastes would damage the teeth. Unfortunately, without using toothpaste, teeth can be stained. According to Dr. Katayama, after continuing to practice his method for more than three months, the stain will go away. He also says that the polish used by dentists is not damaging. My experience is that it is rather difficult to keep the teeth white while practicing the Katayama method. I don't have a particularly good idea about this but the most effective approach seems to me to avoid drinking too much tea or coffee.

In his book, Dr. Katayama does not recommend implants, referring to immaturity of the technology (especially in Japan during his time?). However, I have several implants since 1999 (done in the U.S.). They are still working well in 2017, except for tightening one screw that attaches the crown a few times. I personally think that implants would be one of the best options available for replacing lost teeth due to gum diseases.

Finally, I would like to comment on a few other approaches. Even in Japan, there are dentists who argue that frequent scaling alone would cure gum diseases. Dr. Katayama points out that the scaling-only method is insufficient because it does not strengthen the gum. I totally agree with this point. Next, in mid 1990s, I saw a periodontist in Philadelphia, who specializes in chemical treatment of periodontitis. By that time, I had started the Katayama method (although not very proficient then). When they examined my mouth searching for microorganisms, they were not very successful. At that point, they lost interest in treating me. Of course, I never returned to them. Looking back, I now think that treating gum diseases chemically is quite limited. Again, the gum strengthening component is missing.

Conclusion

This essay introduces Dr. Katayama's approach to gum diseases, which emphasizes home care, the brushing aspect in particular. The effectiveness of his approach is demonstrated by his clinical experience and my own case.

Once patients become more aware of our own role and ability in the dealing with gum diseases, we could improve the gum condition more than anything else.

I truly hope that more people become aware of Dr. Katayama's approach and practice it as an essential aspect of dealing with gum diseases. I am more than happy to discuss Dr. Katayama's approach with others. I also think that there could be patient-directed gum disease home care support group.

References

The NPO Koushikai (恒志会) is a Japanese non-profit organization concerned with holistic oral health, inspired by Dr. Katayama: <http://koushikai-jp.org/> (direct link to the English version: http://koushikai.s1.valueserver.jp/index.php?E_FrontPage)

- Dr. Katayama bio in English: http://koushikai.s1.valueserver.jp/index.php?E_Museum#content_1_0

Katayama, Tsuneo. 1990. *Shisou-nourou: Nukazuni Naosu (Periodontitis: Healing Without Extraction)*. Tokyo: Asahi Shinbun-sha. (ISBN 4-02-256104-1)

Asahi Shinbun-sha. 1987. *Kanja-no tame-no Shika-no Subete (Everything for Dental Patients)*. Tokyo: Asahi Shinbun-sha. (ISBN 4-02-255694-3)

Price, Weston A. 1939. *Nutrition and physical degeneration: a comparison of primitive and modern diets and their effects*. New York: P.B. Hoeber. (new editions continuously available)