



日本顕微鏡歯科学会

Japan Association of Microscopic Dentistry

**NEXT STAGE OF MICROSCOPIC DENTISTRY
WEB MEETING**

Period : April 24 - 25, 2021 (Only in Japanese)

Streaming services : April 29 - May 9.(Japanese and english ver.)

Program and Abstracts

Period : April 24(Sat)・25(Sun), 2021

(Streaming service) April 29(Thu)~May 9(Sun)

Venue : WEB

Congress President: Naohisa Wada
(Professor, Kyushu University Hospital)

Executive Committee Chair: Akira Haraguchi
(Kyushu University Hospital)

日本顕微鏡歯科学会 第17回学術大会

プログラム・抄録集

The 17th Annual Meeting & Scientific Session of the JAMD

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Greetings from the Congress President of the 17th Annual Meeting & Scientific Session of the JAMD

大会長 挨拶

Naohisa Wada
Congress President of the 17th Annual Meeting of
the Japan Association of Microscopic Dentistry



The 17th Annual Meeting of the Japan Association of Microscopic Dentistry (JAMD), which has been postponed in 2020, will be held on line on April 24-25, 2021. The theme of the conference, "Next Stage of Microscopic Dentistry" includes the meaning of the dawn of the next generation of microscopic dentistry in many ways.

The special lecture will be given by Professor Hiroaki Ozaki, Department of ophthalmology at Fukuoka University School of Medicine, entitled "Dawn and Evolution of Microsurgery in Medicine-Recommendations for the MIS (Micro Invasive Surgery) era-". There are three symposiums, the first is "My Style - Know-How-Now -". Up-and-coming speakers from the standpoint of dentists and dental hygienists will give lectures about how to use a microscope in clinical practice. The second symposium is entitled "The Modern Microscopic-Endo-Restorative Technique", and each specialist will introduce the latest treatment concepts and methods about microscopic endodontics, restorative dentistry and prosthodontics. The third is the DH symposium "Tips for Jump up -From Beginner to Expert of Microdentistry -", presenting dental hygienists with advanced usage methods from the basics using microscope. In addition, AMED member special session, conference president award lecture, general oral presentations, corporate seminars, etc. will be held.

You can watch back from April 29th (Thursday / holiday) to May 9th (Sunday). We hope that this conference will be used as a forum for exchanging information and opinions about future microscope dentistry, which will lead to the future development and enhancement of dentistry. We look forward to the participation of not only members but also many dental professionals.

PROGRAM AT A GLANCE

大会日程表

ライブ配信

April 24(Sat)

15:00	開会式
	特別講演
16:00	企画公演 AMED 会員講演 Jorge Zapata Wayne Remington
17:00	企業セミナー 1 モリタ株式会社共催 磯崎 裕騎
18:00	大会長賞受賞講演 三橋 純
	24日講演終了
19:15	24日質疑受付終了

April 25(Sun)

9:00	
10:00	SYMPOSIUM 1 マイスタイル ~今の私はこうしている~ 篠永 美佳 土田 晃太郎 長尾 大輔 加藤 あゆ美
11:00	
12:00	企業セミナー 2 カールツァイス株式会社 白水貿易株式会社共催 柴原 清隆
13:00	DH SYMPOSIUM 飛躍のヒントはここにある ~マイクロビギナーからその先へ!~ 佐藤 由美 岩山 亜里奈 岡 由美
14:00	
15:00	SYMPOSIUM 2 The Modern Microscopic-endo-restorative Technique 澤田 則宏 渥美 克幸 内山 徹哉
16:00	
	閉会式
17:30	25日質疑受付終了

PROGRAM AT A GLANCE

大会日程表

オンデマンド配信

【April 24(Sat)09:00~May 9(Sun)21:00】

Oral Presentation (Streaming services)

(We will accept questions until 5:00pm on April 25th.)

Corporate Seminar, Virtual booth, Commercial

【 (Streaming service) April 29(Thu)9:00~May 9(Sun)21:00】

Streaming service in Japanese and English

For Keynote Lecture, Special Session, All Symposiums, and President Award Lecture

Except opening ceremony, Closing ceremony, Corporate Seminar

Presentation of Q and A lists for Keynote Lecture, Special Session, all Symposiums, President Award Lecture, and all oral presentations

> Photography or recording during any speaker session is prohibited.

Digitally copying, downloading and re-producing any content, including any speaker session is prohibited.

PROGRAM

プログラム

ORAL PRESENTATION：一般口演(オンデマンド)

April 24(Sat)09:00～May 9(Sun)21:00

【症例報告】

Case report OP-01 III-b 型の歯内歯に手術用顕微鏡を用いて非外科的根管治療を行った一症例

山田 雅司、佐古 亮、田宮 資己、古澤 成博

東京歯科大学 歯内療法学講座

A case of non-surgical root canal treatment using an operating microscope on a type 3-b dens invaginatus

Masashi Yamada, Ryo Sako, Yoshiki Tamiya, Masahiro Furusawa

Department of Endodontics, Tokyo Dental College

OP-02 隅角を含む窩洞へのダイレクトボンディングにセパレーターを用いた一症例～マイクロスコープの優位性を効率的に発揮する修復治療を目指して～
木南 意澄

昭和歯科医院

Using Separators for Direct Bonding to Caverns Containing Corners

～Aiming for Restorative Therapy that Efficiently Uses the Advantage of Microscope～

Izumi Kominami

Showa Dental Clinic

OP-03 セパレーターと表面張力を応用した充填法を併用した2級コンポジットレジン修復

樋口 惣

樋口歯科

Composite resin restoration method in class II cavities by Surface Tension Control Technique with separator.

So Higuchi

Higuchi Dental Clinic

OP-04 PRGF を用いた歯周組織再生療法 -Entire Papilla Preservation
Technique-
芳賀 剛
学研都市歯科・矯正歯科
Periodontal regeneration therapy using PRGF -EPPT-
Takeshi Haga
Gakkentoshi dental & orthodontic clinic

OP-05 下顎右側側切歯に M-MIST を用いて歯周組織再生療法を行った症例
馬庭 望
医療法人きずな きずな歯科クリニック
Periodontal regeneration for Microscope to #42 using M-MIST
Nozomi Maniwa
Kizuna Dental Clinic

OP-06 バイラミナーテクニックによる複数歯の根面被覆
萩原 誠
医療法人きずな きずな歯科クリニック
Bilaminar technique for multiple gingival recession
Makoto Hagihara
Kizuna Dental Clinic

OP-07 直視・直達を考える
表 茂稔
おもて歯科医院
Consideration of Direct Visual Control
Shigetoshi Omote
Omote Dental Office

OP-08 拡大視野下で使用した半導体レーザーの有効性
戸田 成紀
たねいち歯科戸田クリニック
Effectiveness of semiconductor laser using a microscope
Seiki Toda
Taneichi Dental Toda Clinic

【研究報告】
Research
report

OP-09 歯科治療時の飛沫状態と飛沫防止についての検討

内田 宜孝¹、辻本 恭久²、三橋 純³

¹ MI 内田歯科クリニック

² 日本大学松戸歯学部歯内療法学講座

³ デンタル みつはし

Examination of droplet condition and droplet prevention during dental treatment

Yoshitaka Uchida¹, Yasuhisa Tsujimoto², Jun Mitsuhashi³

¹ MI Uchida Dental Clinic

² Department of Endodontics, Nihon University School of Dentistry at Matsudo

³ Dental Mitsuhashi

OP-10 歯科治療時のバキュームのポジションとその先端径の違いによる水滴飛散の変化について

深江 あゆ

樋口歯科医院

About a change of the drop of water scattering by the difference in position of the vacuum at the dental treatment and tip diameter

Ayu Fukae

Higuchi Dental Office

OP-11 白歯部ダイレクトボンディングにおける裂溝について考える

野亀 慶訓

野亀歯科医院

Considering fissures in direct bonding of molars

Yoshinori Nokame

NOKAME DENTAL CLINIC

OP-12 各種防湿器具の防湿能力の検討

中西 秀太¹、唐木 隆史²、鈴木 侑³

¹ KIRIN 歯科クリニック

² 等々力ぞうのはな小児・矯正歯科

³ らいおん歯科クリニック

Absolute humidity of various moisture control devices

Hidetaka Nakanishi¹, Takashi Karaki², Yu Suzuki³

¹ KIRIN dental clinic

² ZOU no HANA Pediatric& Orthodontic dental clinic

³ Lion dental clinic

- OP-13 拡大視野下におけるテンポラリークラウンの製作についての取り組み
高橋 恒明、高橋 明日美
高橋歯科医院
Approaches to the Fabrication of Temporary Crowns under Magnified
Vision
Tsuneaki Takahashi, Asumi Takahashi
Takahashi Dental Clinic
- OP-14 顕微鏡歯科治療時の動画撮影と説明のタイミング
遠藤 広規
医療法人社団 Enterdo Natural Dental Office 橋本
Timing of recording and explanation
Hiroki Endo
Medical corporation Enterdo Natural Dental Office Hashimoto
- OP-15 Ceramic restoration on different lesion of central incisors
Chang Kai Jung
Honor Dental Clinic
- OP-16 Microscope assisted esthetic dentistry
Chang Tzu Yang
pretty smile dental clinical

April 24(Sat)

15:00~

Opening Ceremony : 開会式

北村 和夫 日本顕微鏡歯科学会 会長
日本歯科大学附属病院 総合診療科 教授

Kazuo Kitamura

President of Japan Association of Microscopic Dentistry

Professor, The Nippon Dental University

和田 尚久 日本顕微鏡歯科学会 第17回学術大会 大会長
九州大学病院 口腔総合診療科 教授

Naohisa Wada

Congress President of the 17th Annual Meeting of the

Japan Association of Microscopic Dentistry

Professor, Kyushu University Hospital

15:10~

KEYNOTE LECTURE : 特別講演

医科における顕微鏡手術の黎明と進化

—MIS (Micro Invasive Surgery) 時代への提言—

尾崎 弘明

福岡大学医学部 眼科学教室 診療教授

Dawn and evolution of microsurgery in medicine —Recommendations
for the MIS era—

Hiroaki Ozaki

Clinical Professor, Fukuoka University

16:00~

SPECIAL SESSION : 企画講演

Art of Microphotography

Jorge Zapata

Restorative Microscope Centered Practice during COVID-19 Protocols

Wayne David Remington

16:50~

企業セミナー：モリタ株式会社共催

What's ergonomics?

磯崎 裕騎

医療法人社団いそざき歯科

17:40～

President Award Lecture : 第 16 回大会長賞口演

同一口腔内に連続的にセメント質剥離が生じた 1 症例

三橋 純

デンタルみつはし（東京都）

Consecutive cemental tear in the same oral cavity: case report

Jun Mitsuhashi

Dental Mitsuhashi

April 25(Sun)

9:00~

**SYMPOSIUM I ; マイスタイル~今の私はこうしている~
"MY STYLE" - Know-How-Now -**

座長：櫻井 善明 ネクスト・デンタル（東京都）
林 智恵子 ネクスト・デンタル（東京都）

歯科衛生士における苦手部位を克服する

篠永 美佳 デンタルクリニック K（埼玉県）
Overcoming weakness as a Dental Hygienist
Mika Shinonaga (Saitama)

**歯周外科にも使ってみようマイクロスコープ
~マイスタイル：MIST~**

土田 晃太郎 医療法人誠英会 土田歯科医院（宮崎県）
Management of minimally invasive surgical technique.
Kotaro Tsuchida (Miyazaki)

切らないで 拡げてみよう ポケットを！

~マイスタイル：Minimally Invasive Periodontal Surgery~

長尾 大輔 長尾歯科（茨城県）
Let's expand the periodontal pocket without making an incision.
~Minimally Invasive Periodontal Surgery~
Daisuke Nagao (Ibaraki)

マイクロスコープを用いた自費メンテナンス

加藤 あゆ美 ノアデンタルクリニック・ホワイトエッセンス（岐阜県）
Periodontal maintenance using the microscope
Ayumi Kato (Gifu)

Discussion

12:00~

企業セミナー：カールツァイス株式会社、白水貿易株式会社共催

手術用顕微鏡 EXTARO300 の有用性について

柴原 清隆
柴原歯科医院

12:50～

DH SYMPOSIUM : 飛躍のヒントはここにある

～マイクロビギナーからその先へ!～

Tips for jump up -From beginner to expert of microdentistry -

座長：大野 真美 カガミ歯科医院（大阪府）

実践！顕微鏡下でのペリオドンタルインスツルメンテーション

佐藤由美（東京都勤務）

The Practice ! Periodontal Instrumentation with Microscope

Yumi Sato(Tokyo)

使い方で幅が広がる「背面ミラーテクニック」

岩山亜里奈（和歌山県勤務）

Different uses to expand the “back surface mirror technique”

Arina Iwayama (Wakayama)

苦手を克服しよう～屈曲チップとストレートチップの使い方～

岡由美（兵庫県勤務）

Get over your weak points! ~How to use curved or straight tips for scaling with microscope~

Yumi Oka (Hyogo)

Discussion

14:20~

SYMPOSIUM II : The Modern Microscopic-endo-restorative Technique

座長：三橋 純 デンタルみつはし（東京都）

三橋 晃 鎌倉デンタルクリニック（神奈川県）

歯内療法専門医が考える抜歯基準

澤田 則宏 澤田デンタルオフィス（東京都）

Clinical decision making of Endodontist

Norihiro Sawada (Tokyo)

支台築造におけるモダンテクニックの再考

渥美 克幸 デンタルクリニック K（埼玉県）

Consideration of modern techniques in foundation restoration

Katsuyuki Atsumi (Saitama)

Minimally invasive Prosthodontic treatment using all ceramics

内山 徹哉 内山歯科クリニック（東京都）

Minimally invasive Prosthodontic treatment using all ceramics

Tetsuya Uchiyama (Tokyo)

Discussion

16:45~

CLOSING CEREMONY ——— 閉会式

小林 平 日本顕微鏡歯科学会 第18回学術大会 大会長

日本大学松戸歯学部 クラウンブリッジ補綴学・

口腔インプラント学講座 准教授

Taira Kobayashi

Congress President of the 18th Annual Meeting of the

Japan Association of Microscopic Dentistry

Associate Professor, Nihon University School of Dentistry at Matsudo

April 24(Sat)~May 9(Sun)

企業展示（バーチャルブース、CM）

Corporate exhibition (Virtual booth, Commercial)

April 24(Sat)9:00 ~ May 9(Sun)21:00

ABSTRACT OF LECTURE
KEYNOTE LECTURE

April 24(Sat) 15 : 10～

**医科における顕微鏡手術の黎明と進化
—MIS (Micro Invasive Surgery) 時代への提言—**

尾崎 弘明 福岡大学医学部 眼科学教室 診療教授

Dawn and evolution of microsurgery in medicine —Recommendations
for the MIS era—

Hiroaki Ozaki

Clinical Professor, Fukuoka University

Dawn and evolution of microsurgery in medicine

—Recommendations for the MIS era—

Hiroaki Ozaki

Clinical Professor

Department of Ophthalmology, Fukuoka University



1. Introduction and roles of microsurgery

Microsurgery was first introduced in medical practice in 1950 with otolaryngological surgery. In the ophthalmology, previously only gross surgery was possible, and the identification of the fine tissues was limited. The introduction of microsurgery has enabled new advanced techniques that are minimally invasive to tissues. The significance of microscopic observation of the tissues will be discussed.

2. Microsurgery in clinical practice

In the ophthalmology area, all operations are performed with microscopy. Therefore, physicians must be familiar with maneuvering instruments under microscopic conditions. In our department, all residents and medical students are submitted to a training program by wet-lab using pig eyes and computer simulation programs using special software. Preparation to actually perfect microsurgery will be given and actual microsurgery videos will be shown.

3. Importance of microsurgery in MIS (Micro Invasive Surgery)

MIS has become mainstream in recent years in medicine as well as dentistry. The ultimate goal of medical care is to advance medical technology and improve patient satisfaction by reducing patient burden. Recent innovations in surgical instruments have led to smaller incisions, and it is hoped that surgery time will be reduced with fewer complications. Small incisions and implants are considered the golden standard in ocular microsurgeries, and the microscope is a vital tool at its core.

4. Microsurgery in the near future

Microsurgery has its limitations, and the burden on the body of the doctor due to long surgery is undeniable. In addition, microsurgery becomes stressful as we age. Recently, heads-up surgery which operates by watching a 3D-monitor has been developed. It allows surgeons to operate in a natural position with less physical stress. I will introduce body-friendly surgery that will be practical and popular down the road.

In this lecture, I hope you will come to understand the attractiveness and possibilities of surgery using a microscope.

Keynote Lecture

Professional career

1990 Graduated Oita University School of Medicine
1990-1993 Resident of Department of Ophthalmology, Fukuoka University
1992-1993 Doctor at Sasebo Kyosai Hospital
1993-1997 Received PhD from Fukuoka University School of medicine
1995-1998 Research fellow, Wilmer Eye Institute, Johns Hopkins University
1998-1999 Assistant professor, Fukuoka University
1999-2010 Associate professor, Fukuoka University
2010- present Clinical professor, Fukuoka University

Affiliation society

Japanese Ophthalmological Society
Japanese Glaucoma Society
Japanese Cornea Society
Association for Research in Vision and Ophthalmology (ARVO)

ABSTRACT OF LECTURE

SPECIAL SESSION

The Academy of Microscope Enhanced Dentistry (AMED) Members

April 24(Sat) 16 : 00~

Art of Microphotography

Jorge Zapata

**Restorative Microscope Centered Practice during COVID-19
Protocols**

Wayne David Remington

Art of Microphotography

Jorge Zapata



Microphotography is the art of taking pictures through the dental operative microscope (DOM); this kind of photography presents many challenges that are not encountered in normal photography. One of these specific difficulties is derived from the fact that the lens is not attached to the camera. As a result, the camera is attached to an adapter that is then attached to the DOM. This creates a problem where digital technology (camera) must interface with analog technology (adapter); the result is a breakdown of communication between both technologies. In this lecture you will learn how to understand and how to establish better harmony between the camera and the adapter to obtain better pictures and videos.

Professional career & Affiliation society

Dr. Jorge F. Zapata is a general dentist in Ogden, Utah who has been practicing microscope dentistry in his private dental practice since 2005. He is a current member, executive board member and treasurer of the Academy of Microscope Enhanced Dentistry (AMED). Dr. Zapata is an international and U.S. national lecturer, who specializes in video and microphotography capture under the dental microscope. Dr. Zapata also lectures on the benefits of dental microscope usage in oral surgery, microphotography and integration of the CBCT. Dr. Zapata was recently published in Dentaltown Magazine; the title of his publication, *In Focus: Microphotography using the Dental Operative Microscope*. Dr. Zapata is product reviewer from Global Surgical Corporation and also a KOL from Kuraray, He can be contacted at zapata_dental@yahoo.com.

Restorative Microscope Centered Practice during COVID-19 Protocols

Wayne David Remington



COVID-19 has demanded more strict infection control and aerosol controls than previous pandemics. The extent and infectiveness of COVID-19 required a new look at aerosol controls in dental practices. The lack of research in dental aerosols required new research and a fresh look at how to proceed with restorative dentistry with surgical microscopes.

The research of our team demonstrated that bag barrier devices on a surgical microscope combined with dental high speed vacuum evacuators (HVE) and extra oral suction devices provide effective aerosol control for dental practices including restorative and hygiene procedures.

Restorative practices are still able to be extremely efficient with the use of surgical microscopes, even with multiple increased layers of aerosol and infection controls.

My movie will demonstrate our infection control protocols and show our research methodology.

Professional career & Affiliation society

Education:

Ursinus College, B.S., Chemistry

Temple University, D. D. S.

University of Virginia Medical Center, General Practice Residency 1982-1984

Current Professional Activity:

Private practice in General and Aesthetic Dentistry, Wayne David Remington, DDS, PC Charlottesville, VA

Teaching faculty, University of Virginia Medical Center, Clinical Assistant Professor in the Department of Dentistry

Teaching faculty, Global Surgical Corporation; Virginia Microscope Training Center, AMED

Head of training faculty, AMED

contacted at wayneremington@mac.com

ABSTRACT OF LECTURE

Symposium I : マイスタイル

~今の私はこうしている~

"MY STYLE" - Know-How-Now-

April 25(Sun) 9:00~

座長：櫻井 善明 ネクスト・デンタル
林 智恵子 ネクスト・デンタル

歯科衛生士における苦手部位を克服する

篠永 美佳 デンタルクリニック K (埼玉県)

Overcoming weakness as a Dental Hygienist

Mika Shinonaga (Saitama)

歯周外科にも使ってみようマイクロスコープ

~マイスタイル：MIST~

土田 晃太郎 医療法人誠英会 土田歯科医院 (宮崎県)

Management of minimally invasive surgical technique.

Kotaro Tsuchida (Miyazaki)

切らないで 広げよう ポケットを！

~マイスタイル：Minimally Invasive Periodontal Surgery~

長尾 大輔 長尾歯科 (茨城県)

Let's expand the periodontal pocket without making an incision.

~Minimally Invasive Periodontal Surgery~

Daisuke Nagao (Ibaraki)

マイクロスコープを用いた自費メンテナンス

加藤 あゆ美 ノアデンタルクリニック・ホワイトエッセンス (岐阜県)

Periodontal maintenance using the microscope

Ayumi Kato (Gifu)

Overcoming weakness as a Dental Hygienist

Mika Shinonaga

Dental Clinic K



31 years ago, when I started my career as a dental hygienist, respective procedures and regenerative therapy were the most prevailing dental treatments.

We, dental hygienists also had lots of chance to develop our skills and learnt positioning, selecting right instruments and completing root surface through those operations.

Absolutely no one questioned performing such operations with bare eyes back then.

Returning to clinical practice after my long child rearing leave, the new world of "view expansion" was before me.

At Dental Clinic K, Dr. Atsumi introduced me a surgical loupes and I was fascinated in practicing what I learnt in my 20-year DH career in enlarged view.

A microscope was introduced in our clinic 7 years ago as Dr. Atsumi believed that it would surely be the standard in the dental treatment before too long and the same skill would be needed for dental hygienists as well.

I started using it 3 years ago and remembered that I was excited to see and capture the images even larger than surgical loupe.

As I performed operations through microscope, I found there were some areas that the sight of microscope could hardly reach and soon realized that the positioning skill I obtained in the past DH experience was not 100% applicable to the microscope operation even though it worked perfectly in the bare eye- operation.

This was very disappointing and it almost turned off my interest in using microscope.

However, the benefit from using microscope was too big to give up and I decided to start over from reexamining my positioning.

Today I would like to talk about how I improved my positioning.

Professional career

Graduated from Osaka Dental Institute College

Affiliation society

Member of Japan Association of Microscopic Dentistry

Management of minimally invasive surgical technique.

Kotaro Tsuchida

Tsuchida Dental Clinic



Open flap debridement is applied for the control of infection and periodontal regenerative therapy in general. To control infection, operation can be performed more precisely by development of expansion equipment in recent years. Minimally invasive surgery (MIS) proposed by Harrel in 1995 has improved by Cortellini as Minimally invasive surgical technique (MIST) and Modified minimally invasive surgical technique(M-MIST). The main objectives of the MIST are the following: (1) reduce surgical trauma, (2) increase flap/wound stability, (3) allow stable primary closure of the wound, (4) reduce surgical chair time, and (5) minimize patient discomfort and side effects. The concept based on biology is important. When case selection can be performed accurately, good results are obtained in many cases. This presentation shows the concept and surgical technique of periodontal regeneration using MIST and M-MIST.

Professional career

Graduated from Showa University in 2002

Affiliation society

Japan Academy of Clinical Periodontology.
Japan Association of Microscopic Dentistry.
American Academy of Periodontology international member

Let's expand the periodontal pocket
without making an incision.

~Minimally Invasive Periodontal Surgery~

Daisuke Nagao

Nagao Dental Clinic



In clinical dental practice, there are many cases of moderate or severe periodontitis that require tooth extraction. Even if periodontal surgery is deemed capable of preserving teeth, gingival flap surgery and other methods are typically highly invasive because they reduce the gum and hard tissue. I have performed minimally invasive periodontal surgery, which has expanded the periodontal pocket without making an incision, and high-precision debridement under the dental microscope on many teeth with moderate or severe periodontal disease. The patients were 88 who underwent minimally invasive periodontal surgery (449 times in total) at our clinic between 2008 and 2012. The teeth assessed were the total 2,206. Post-operative tooth preservation rate was approx.97.05%. Average bleeding on probing (BOP) and pus discharge decreased from approx.16.16 teeth before surgery to approx.2.51 teeth after surgery. Moreover, while the results varied according to site, it is possible that the surgeries enabled a relatively high improvement in periodontal pockets from ≥ 6 mm to ≤ 3 mm. A survey of pain medication uses after surgery showed that approx.16% of patients took multiple doses. I reported this result to THE INTERNATIONAL JOURNAL OF MICRODENTISTRY in 2015. The study findings suggest that performing minimally invasive periodontal surgery for moderate or severe periodontitis is very clinically effective because it enables a high degree of precision while minimizing both the surgical field and pain after surgery. This presentation, I would like to introduce my style about this minimal periodontal surgery.

Professional career

Graduated from Kanagawa Dental College in 1994

Affiliation society

Advising doctor for Japan Association of Microscopic Dentistry

Member of The American Association of Endodontists

Member of Japan Endodontic Association

Member of The Japanese Academy of Clinical Periodontology

Specially Appointed Lecturer at Kanagawa Dental University

Periodontal maintenance using the microscope

Ayumi Kato

NOAH DENTAL CLINIC whiteessence



Noah dental clinic does not accept the Japanese National Health Insurance system.

All staff members have their own clear roles. The director dentist provides treatment, some of the dental hygienists performs dental esthetics such as whitening and cleaning, and I am in charge of the initial periodontal therapy and periodontal maintenance care using a microscope.

By using a microscope, it is possible to perform safer and more accurate treatments focus on visuals, instead of relying on the blind finger sensation.

It is also valuable for patient education because, visual communication through the monitor enhances mutual understanding and helps to construct the patient-operator-relationships. Furthermore, the video recording is useful to share information among staff members.

Patients expect me to spend precious time. I think, the microscope is a cost effective tool. In order to make the valuable time with the patients, I usually conduct careful interview each time and consider what to offer and make a decision on that session.

We can solve problems can provide guidance and treatment using a microscope. It might also remove patients' anxiety and to give confidence for their own oral health. It can suggests patients' physical and mental condition through the magnified field. I consider "the state of the oral cavity" tells "the state of the general health". I strongly believe the dental hygienist works for patients' health. We focus on nutritional status and lifestyle during basic periodontal treatment, too, and experienced that giving advice can improve their gum condition. In order to maintain patients' oral health, cure periodontal disease, and prevent recurrence, the microscope influenced the operator's perspective, and also changed the patient's own health perspective.

We have great advantages to use enough time for each session and to provide flexible contents compare to the operators working within the Japanese National Health Insurance system. I'm going to discuss what I experienced using a microscope in our clinical practice.

Professional career

2001: Graduated from Gifu Dental Hygiene College

Working at a dental clinic in Gifu city

2013: NOAH DENTAL CLINIC white essence

Affiliation society

Japan Association of Microscopic Dentistry Certified Dental Hygienist

Japanese Society of Periodontology Certified Dental Hygienist

ABSTRACT OF LECTURE

Symposium II : The Modern Microscopic- endo-restorative Technique

April 25(Sun) 14 : 20～

座長：三橋 純 デンタルみつはし

三橋 晃 鎌倉デンタルクリニック

歯内療法専門医が考える抜歯基準

澤田 則宏 澤田デンタルオフィス（東京都）

Clinical decision making of Endodontist

Norihiro Sawada (Tokyo)

支台築造におけるモダンテクニックの再考

渥美 克幸 デンタルクリニック K（埼玉県）

Consideration of modern techniques in foundation restoration

Katsuyuki Atsumi (Saitama)

Minimally invasive Prosthodontic treatment using all ceramics

内山 徹哉 内山歯科クリニック（東京都）

Minimally invasive Prosthodontic treatment using all ceramics

Tetsuya Uchiyama (Tokyo)

Clinical decision making of Endodontist

Norihiro Sawada

Sawada Dental Office



Thirty years ago, we sometimes used the word “subclinical fracture” for explaining the reason of extraction. What is “subclinical fracture”? It must be “unknown reasons” for extraction.

Microscope has led us the new stage of saving a tooth. Dentists using Microscope can save the tooth that was extracted by naked eyes. Missed canals, infection not removed completely in canal, and fracture in the tooth are found easily under Microscope. The criteria of extraction have been changed by Microscope.

What is the criteria whether we can save a tooth or not? Can we save the tooth that have a large lesion? What kind of lesion we should do surgery? Can we save the tooth with root fracture? How long does the tooth work?

Endodontist is the specialist of saving tooth. Endodontist can save the tooth which general practitioner couldn't save. However, even Endodontist couldn't save all the teeth. What is the criteria of Endodontist under Microscope? I would like to show my cases and talk about the new criteria for saving the tooth.

Professional career

1988 Graduated from Tokyo Medical and Dental University
1992 Received the Ph.D (Tokyo Medical and Dental University)
1992 Tokyo Medical and Dental University, Dental Hospital
1995 Research associate, Tokyo Medical and Dental University
1997 University of Pennsylvania, USA
2002 Sawada Dental Office
Tokyo Medical and Dental University, Part-time instructor

Affiliation society

Japan Association of Microscopic Dentistry
The Japanese Society of Conservative Dentistry
Japan Endodontic Association
American Association of Endodontists

Consideration of modern techniques in foundation restoration

Katsuyuki Atsumi

Dental Clinic K



Some of the main failures of foundation restoration include detachment, root fracture, and coronal leakage. In addition, these problems cannot be solved through abutment construction with the metal materials which have been used up until now.

On the other hand, I believe that fiber-reinforced composite resin post and core can achieve superior results. In order to make the most of the advantages of glass fibers, we need to sort through the vast volume of knowledge on this topic, and we must also investigate related factors (ex. the proper way to use glass fibers for the reinforcement of composite resin).

I will talk about 3 key points about foundation restoration for this time: requiring supragingival tooth structure, fiber arrangement and adhering to root canal dentin.

Professional career

2002 Graduated from Nagasaki University School of Dentistry (DDS)

2002-2010 Worked at Akabane Dental Clinic

2010 Established Dental Clinic K

Affiliation society

Certified Member of the Japan Association of Microscopic Dentistry

Certified Member of the Japan Society for Adhesive Dentistry

Part-time faculty in Nagasaki University School of Dentistry

Minimally invasive Prosthodontic treatment using all ceramics

Tetsuya Uchiyama

Uchiyama Dental Clinic



In the past several years, crown prosthetic treatment is in a period of great change. What is in the midst of this revolution is the emergence and popularization of ceramic copings that not only use metals, but also have higher aesthetics and physicality, such as zirconia and lithium disilicate in recent years.

Conventional metal ceramics are excellent materials with much evidence. However, since the material uses metal coping, it is necessary to block the metal color with opaque porcelain when trying to make an aesthetic prosthesis. Furthermore, by building dentin and enamel porcelain on it, a crown prosthesis with excellent aesthetics is completed. Moreover, in order to acquire this 4 layer structure, fixed thickness is needed for a prosthesis. Along with this, a large amount of preparation is required, and if it is a vital tooth, the risk of intraoperative and postoperative pain, and of course, pulp extraction increases.

In other words, when performing dental prosthetic treatment using metal ceramics, aesthetics and preservation of tooth quality are inextricably linked.

However, ceramic copings with high aesthetics and excellent physical properties, such as zirconia and lithium disilicate, do not use metal copings, so that the crown can be restored in a single structure or in a form close to that.

Therefore, the amount of abutment tooth preparation during the crown restorative treatment was greatly reduced, and it became possible to acquire aesthetics with preserving more tooth structure.

In addition, the crown restorative treatment using a microscope can be carried out while confirming the details of the treatment by enlarging it, so that more tooth quality can be preserved.

In this lecture, I will explain how the abutment preparation of the author has changed with changes in the materials used.

Professional career

2004 Graduated from Tokyo Dental College

2010~ UCHIYAMA Dental Clinic

ABSTRACT OF LECTURE

DH Symposium : 飛躍のヒントはここにある
~マイクロビギナーからその先へ!~

Tips for jump up

- From beginner to expert of microdentistry -

April 25(Sun) 12 : 50~

座長 : 大野 真美 カガミ歯科医院 (大阪府)

使い方で幅が広がる「背面ミラーテクニック」

岩山亜里奈 (和歌山県勤務)

Different uses to expand the “back surface mirror technique”

Arina Iwayama (Wakayama)

苦手を克服しよう~屈曲チップとストレートチップの使い方~

岡由美 (兵庫県勤務)

Get over your weak points! ~How to use curved or straight tips for scaling with microscope~

Yumi Oka (Hyogo)

実践! 顕微鏡下でのペリオドンタルインスツルメンテーション

佐藤由美 (東京都勤務)

The Practice ! Periodontal Instrumentation with Microscope

Yumi Sato(Tokyo)

The Practice!

Periodontal Instrumentation with Microscope

Yumi Sato

Ichikawa Dental Clinic



I have been five years since I started using a microscope. Prior to that, I worked as a periodontal certified dental hygienist at a dental clinic specializing in periodontal disease. Since the enhanced technology of microscope joined to my knowledge and experience, my clinical practice has changed significantly. Especially in debridement, how selected instrument work on tartar brought a lot of credibility. There are remarkable changes in instrumentations by measuring the locations of the root surface and tartar on treatment.

This time, I focus on how dental hygienists use microscopes efficiently during initial preparation.

The plaque retention factor, which is important for periodontal therapy, can be reliably seen with a microscope, such as caries, tartar, malformed tooth, and compatibility of faulty dental restoration. In addition, by using a microscope for subgingival calculus, which has been treated with sensation and imagination, it has become visible from the invisible. In addition, microscope made subgingival calculus treatments “visible treatment” instead of “invisible, intuitive and imaginative treatment” in the past.

Therefore, in order to make the best use of knowledge, experience and microscope technology in periodontal therapy, various ideas and both basic and practical schemes are required. For example, it is important to create a good environment that is easy for the practitioner to treat, considering practitioner's positioning, mirror technique, how to handle the three-way syringe, and the settings around the unit.

It is also essential to find an accurate and a minimally invasive treatment for a patient on periodontal therapy.

Always need to check the condition in the oral cavity, recognize the state of plaque and tartar, and select an appropriate instrument so that there is no damage to the gums. This kind of treatment is possible only with a microscope. The minimally invasive treatment makes it easier to have patient's cooperation and showing the treatment-cam makes it happen to get positive participation and agreement.

At this symposium, I would like to share with you the expertise and tips for dental hygienists to treat periodontal disease with microscope, and the joy of "diagnosing".

Professional career

Graduated from The Nippon Dental University College at Tokyo (1994)

1994-2015 Arai Dental Clinic

2016- Ichikawa Dental Clinic

Affiliation society

Member of Japan Association of Microscopic Dentistry,

Japanese Society Periodontology,

The Japanese Academy of Clinical Periodontology,

The Academy of Clinical Dentistry

Different uses to expand the “back surface mirror technique”

Arina Iwayama

Hatanaka Dental Clinic



Recently, dental hygienists' opportunity to use microscope in clinical practice has increased. However, such opportunities are not common yet, and few clinics enable dental hygienists to regularly use expensive microscopes in everyday clinical practice. Therefore, although knowledge can be gained by books and technique can be improved by mutual training or with mannequins, the actual clinical utilization is limited, so the usage of microscope tends to be monotonous, and many cannot break out from the beginner phase.

Hired as a new graduate in 2016, my experience as a dental hygienist is only five years. However, thanks to the fortunate environment where the use of microscope in daily clinical practice was able from the first year, and with advice from senior hygienists, knowledge gained by conferences and study groups, my microscope technique progressed rapidly.

The "back surface mirror technique" introduced here is the most useful technique in dental hygienist work, which allowed my progress, and a method I am happy to introduce.

Generally, dentists' microscope methods are often used partially in the oral cavity such as root canal treatment and periodontal surgery, but dental hygienists' work such as scaling are often full-mouth treatments, where microscopes must be used within a limited time. Therefore, reducing unnecessary movements and obtaining a clear view is important, and the double-sided mirror introduced in this lecture is helpful in such circumstances. Particularly, the actual clinical application will be explained, focusing on the mirror technique using the back surface, which is the greatest feature of double-sided mirrors.

In addition, the surface finishing of high reflection mirrors currently on the market differs depending on manufacturers. Therefore, various characteristics are recognized in the mirror image projected on the microscope. Comparison between the double-sided mirror used in this lecture and other manufacturers will be explained for useful future clinical practice.

Professional career

2016 Graduated from Wakayama Dental Hygienist School

2016 Dental hygienist at Medical Corporation Shoeikai, Hatanaka Dental Clinic

Affiliation society

Member of Japan Association of Microscopic Dentistry

Get over your weak points! -How to use curved or straight tips for scaling with microscope-

Yumi Oka



Everyone has weak points in performance with operative microscope. For example, difficulty of treatment in lower lingual site by touching the mirror with teeth, bad mirror position by tongue pressure, and obstruction by splash of sonic devices. How to perform effective treatment, focused on lower lingual site where any hygienist has weak points, comparison the position and tools and optimal amount of water of the tip is demonstrated in this session.

Instruction of the curved tip named 'K-1 tip' and the straight tip named 'Full arch maintenance tip' using in lower lingual left side and right side.

Using K-1 tip, we could treatment in less time with vertical, horizon and sweeping stroke in shallow periodontal pocket by line-contacting. Furthermore, K-1R and K-1L tip enabled to reach the difficult multiple roots by their curved features. On the other hand, using Full arch maintenance tip, we could treatment in root channel or narrow deep pocket with erasing stroke, moving horizontally in 1mm width, because K-1 tip was mis-matched the root surface by curved angle.

Weak points in dental hygiene work will be get over by using operative microscope, and understanding tips and chips.

Professional career

- 1996 Graduated from Dental Hygienist School of Kochi Gakuen College
- 1999 Terada Dental Clinic
- 2006 Freelance Hygienist work at 6 clinics

Affiliation society

- Certificated Hygienist of Japan Association of Microscopic Dentistry
- Certificated Hygienist of Japan Society of Periodontology

ABSTRACT OF LECTURE

President Award Lecture

April 24(Sat) 17:40~

同一口腔内に連続的にセメント質剥離が生じた1症例

三橋 純

デンタルみつはし（東京都）

Consecutive cemental tear in the same oral cavity: case report

Jun Mitsuhashi

Dental Mitsuhashi

Consecutive cemental tear in the same oral cavity: case report

Jun Mitsuhashi
Dental Mitsuhashi



Introduction

With the aging of patients, the rapidly progressive periodontal disease caused by cemental tear is anticipated to increase, therefore there will be a need to handle this in dentistry. I encountered a case with consecutive cemental tear in 5 teeth in an individual. By microdentistry 4 teeth are sound, and 1 tooth was extracted. The whole tooth socket was covered with cementum detached from the root. Here I report a case of cementum removal using the microscope.

Case

A 53-year-old male presented with crown dislodgement and occlusal discomfort on the mandibular right first molar. The core was also dislodged, leaving a residual root. From percussion, radiographs (CBCT included), and periodontal examination the tooth was diagnosed as periapical periodontitis. After initial periodontal therapy, root canal treatment and resin core build-up were performed on the first molar and set a 6 months follow-up.

Next, debridement under infiltration anesthesia was performed at the maxillary left first premolar, where a 6mm periodontal pocket was measured in the mesial. However, detached cementum-like hard tissue fragments were removed from the gingival sulcus.

4 months later, maxillary left lateral incisor labial gingiva suddenly swelled, pus discharge was observed. The labial periodontal pocket was 6mm, and the pulp was vital, therefore, the cause of swelling and the pus was diagnosed as infection from the periodontal pocket. When debridement under infiltration anesthesia was performed, detached cementum-like hard tissue fragments were found as like the first premolar.

Another 2 months later, the maxillary right central incisor labial gingiva swole, and pus was observed. Symptoms of pulpitis occurred, dental pulp extraction was performed. After that, debridement under infiltration anesthesia was performed, hard tissue fragments were found as like the left first premolar and the lateral incisor.

1 week later, the radiolucent area at the apical of the mandibular right first molar had disappeared and was showing steady progress, showed swelling and dental abscess. After acute inflammation disappeared, regenerative therapy was tried but did not show successful results. Another 2 months later, dental abscess occurred at the lingual gingival, and the tooth was extracted. Ankylosis was not recognized and the extraction was uncomplicated, however, with close inspection using the microscope the entire surface of the tooth socket did not show bleeding, and a smooth surface different from the property of the bone was observed. When the elevator was inserted at the edge of the smooth tissue, it peels off and underneath the bleeding bone surface appears. Thus it was judged that the tooth socket was entirely covered with detached cementum from the root was left, the hard tissue was then appropriately separated and removed. The removed hard tissue fragments were sent for histopathologic examination, the fragments were identified as not bone tissue, however, as cemental tear mainly formed from acellular cementum.

After 2 months, maxillary right canine distal gingiva swelled, flap operation under infiltration anesthesia was performed, the same detached cementum-like hard tissue fragments were recognized and removed.

6 months after the root debridement of 4 teeth, the maxillary left lateral incisor, first premolar and right canine teeth attachment recovered and the periodontal tissue was stable. However, the maxillary right central incisor labial remained at 6mm periodontal pocket depth. The extracted mandibular right first molar tooth socket healed normally, implant placement surgery was performed and the progress is being observed.

Discussion

The mechanism of cemental tear is still undiscovered. Cases of cemental tear occurring in multiple teeth in the same oral cavity have been reported in the past, but the number is small. Occlusal force is said to be relevant of the cause of cemental tear, however, since it also occurs in impacted wisdom teeth whether to comprehend it as part of the aging process, or genetical factor is still unknown.

Prognosis of the cemental tear, in the molars usually is followed by extraction. After extraction curettage is important, especially when an implant is planned it is important to not leave contaminant and cause unhealed tooth socket. Conventionally, tooth socket curettage is done by sharp curette under the naked eye or laser. However, in cases when detached cementum resides, it is extremely hard to differentiate it from bone tissue with the naked eye and thought to miss the existence of the cementum. In this case, I was able to see the remains of the cementum using the microscope to observe the tooth socket. However, even if the cementum is perceived the right mirror technique is needed to use the microscope, and quick assistant work is crucial to control the bleeding from blocking the visual field.

In this case, after 8 months of waiting, the tooth socket was judged as normal and ossified, implant placement surgery was performed. The maxillary left lateral incisor, first premolar, and right canine teeth after undergoing debridement under infiltration anesthesia and regenerative treatment the periodontal tissue showed stability, however, this is thought to have succeeded by a thorough inflammatory substance removal by using the microscope.

Conclusion

In this case, I report consecutive cemental tear in 5 teeth of a 53-year-old male. The use of the microscope for the debridement of cemental tear of the root and the curettage of the cemental tear remains in the tooth socket, the right mirror technique for the microscope, and assistant work was suggested to be effective.

Professional career

Graduated from NIIGATA UNIVERSITY FACULTY OF DENTISTRY
Director of Dental Mitsuhashi
Guest Professor of Nihon University
Director and Certified Instructor of Japan Association of Microscopic Dentistry
Carl Zeiss Official Instructor
Instructor of Dental Arts Academy

Affiliation society

Member of Japan Association of Microscopic Dentistry
Japan Endodontic Association
Japan Society for Adhesive Dentistry,
The Japanese Academy of Clinical Periodontology,
Japanese Society of Oral Implantology

ABSTRACT OF LECTURE

Corporate Seminar

CS1

April 24(Sat) 16:50~

共催：株式会社モリタ

What's ergonomics?

磯崎 裕騎 医療法人社団いそざき歯科（香川県）

CS2

April 25(Sun) 12:00~

共催：カールツァイスメディテック株式会社、白水貿易株式会社

手術用顕微鏡 EXTARO300 の有用性について

柴原 清隆 柴原歯科医院（福岡県）

What's ergonomics?

磯崎 裕騎

医療法人社団 いそざき歯科（香川県）



顕微鏡歯科の分野ではエルゴノミクスが語られることが多い。しかしながらその顕微鏡歯科における定義は曖昧で個人によって解釈が異なる。歯科領域での人間工学については日本歯科人間工学会と言う学会があり、そのルーツをDrビーチとしている。Drビーチは1958年日大歯学部客員教授に迎え入れられて以降、日本及び世界の歯科医療界に向けてp dと呼ばれる人間工学的分析を紹介し評価されている。その人間工学的分析は顕微鏡歯科の分野においても非常に有効であり今回その考えを紹介したい。

合わせて人間工学的アプローチによる下顎根管治療の方法を提示する。

略
歴

1987年福岡県立九州歯科大学卒業
同年より3.5年 H P I 研究所研修
1992年新大阪愛歯科いそざき診療所開設
同クリニックにおいてDrビーチに師事
2000年いそざき歯科開設
2013年年医療法人社団愛歯会設立

学
会

2007年日本顕微鏡歯科学会会員
2010年日本顕微鏡歯科学会認定医
2018年日本顕微鏡歯科学会認定指導医

手術用顕微鏡 EXTARO300 の有用性について

柴原 清隆

柴原歯科医院（福岡県）



Zeiss 社製 EXTARO300 は医科のマイクロスコープで培われた技術を歯科用にフィードバックした最新の手術用顕微鏡である。430mm に拡大したバリオスコープ、シングルハンドオペレーション、そして強化された照明機能の各モードは最近の歯科治療に必須と言えよう。当医院においては同顕微鏡を導入後、歯科医師および歯科衛生士が日常臨床に使用しており、その利点と欠点を述べる。また歯内療法領域以外においても手術用顕微鏡の臨床応用は発展を続けており、本講演においては歯周治療、口腔外科、そしてインプラント治療における EXTARO300 の様々な優位性についても解説する。尚、本講演における利益相反はない。

略
歴

2000年 長崎大学卒業
2000年 佐賀医科大学口腔外科研修医
2006年 長崎大学大学院卒業
2006年 長崎大学口腔外科助教
2014年 柴原歯科医院院長

学
会

日本顕微鏡歯科学会
日本口腔外科学会
日本口腔インプラント学会
European Association for Osseointegration
他

一般口演

OP 1 – 16

April 24(Sat)09:00~May 9(Sun)21:00

**A case of non-surgical root canal treatment using an operating microscope
on a type 3-b dens invaginatus**

Masashi Yamada, Ryo Sako, Yoshiki Tamiya, Masahiro Furusawa
Department of Endodontics, Tokyo Dental College

【Introduction】

Dens invaginatus is a developmental malformation, in which there is an infolding of enamel into dentine. It is prevalent in maxillary lateral incisors, with a relatively high incidence of 0.3-10%. However, the morphology is complex and therefore its diagnosis and treatment are difficult. We report a case of endodontic treatment of a dens invaginatus with a root apex lesion by non-surgical root canal treatments using an operating microscope to preserve the pulp.

【Case】

The patient is a 23-year-old male. He was referred to the Department of Conservative Dentistry at Tokyo Dental College for root canal treatment of a maxillary right lateral incisor by a local doctor. Abscess was admitted with no spontaneous pain. The pulp was diagnosed as reversible pulpitis. With cold stimulation showed transient pain. Percussion and palpation pain were noted. The periodontal pocket depth was ≤ 3 mm all around the tooth. Dental x-rays showed an invagination in the central part of the root canal and there were pathways of communication with the periodontal tissue at the root apex. CBCT was taken to understand the root canal morphology.

【diagnosis】

Reversible pulpitis, Symptomatic apical Periodontitis, Oehlers' type 3-b invaginatus

【treatment plan】

It was determined that a bacterial infection from the invagination area was the cause of the apical periodontitis. Therefore, root canal treatment of the invagination was performed using the microscope and pulp preservation was anticipated. Both oral and written informed consent were obtained from the patient prior to treatment, and full explanation about the research purpose was given. The lingual side wall at the orifice of the invagination was enlarged using the Ni-Ti rotary file and ultrasonic tip. #10 manual stainless steel K file was used to negotiate to the apical foramen, and the root canal length was measured with an electronic apex locator. After confirming that the root canal length was correct, the working length was set at a point 0.5mm shorter than the root canal length. Preparation was performed using Ni-Ti rotary files. After final irrigation of the root canal, filling was performed by the MTA cement (Tokyo Dental College Ethics Committee approval no. SH-41). The entrance of the invagination was sealed with an adhesive resin.

【progress】

The clinical symptoms disappeared after one year. It was diagnosed as "healing" due to the diminishing apical radiolucency of the dental x-ray and CBCT.

【Discussion】

In this case, we were able to magnify the invagination to the minimum necessary by using an operating microscope. And the use of MTA cements allowed for tight sealing and protection of the pulp, which may have resulted in good healing.

【Conclusion】 The use of an operating microscope in the treatment of dens invaginatus has been useful.

Using Separators for Direct Bonding to Cavities Containing Corners
~Aiming for Restorative Therapy that Efficiently Uses the Advantage of Microscope

Izumi Kominami
Showa Dental Clinic

【Introduction】

Over 50% of people achieve 8020 in Japan. It is expected that the demand for more minimal repair treatments will increase as an alternative to defect treatments and large prosthetic treatments. Due to factors such as recent adhesive technology, improved physical properties of composite resin, and desire to preserve tooth substance by raising patient awareness, the opportunity to use direct bonding for caries restoration treatment has increased at our dental clinic. Direct bonding is the first choice for caries-prone sites on the surface adjacent to the molars, considering the preservation of the enamel and the dentin. However, in a limited area, high skill is required to perform direct bonding with a certain quality such as caries removal considering tooth substance preservation, margin fit, contact optimization, and morphological recovery. Since two years ago, we have been actively using ivory-type separators for caries repair treatment of adjacent surfaces. This time, we report on direct bonding using a separator, which was performed in occlusal reconstruction with orthodontics treatment and implant.

【Case】

【diagnosis】

#1 Overt morbid occlusion (Occlusion that anterior guidance is inadequate and molars are beginning to collapse)

#2 15,16,25,45 Secondary Caries in Inlays, esthetic disorders

The patient was a 52-year-old woman who visited the hospital with a chief complaint of deficiency treatment in the upper right part. Her molars had 2 defects and 5 inactivations, and periodontal tissue examination revealed a periodontal pocket of 8 mm in the lower right 6. Occlusal reconstruction with Orthodontics treatment and implants, direct bonding with separator for 15,16,25,45

【treatment plan and progress】

First, after initial preparation, we started orthodontic treatment with Invisalign. In the middle of orthodontic treatment, tooth position were almost decided, we determined the implant positions and performed surgery (17, 37). After finishing orthodontics treatment, provisional restoration was made based on diagnostic wax-up, and I finished the final restoration as scheduled. Direct bonding was performed on the area requiring repair treatment (15, 16, 25, 45). Currently, two years have passed, but the progress is good without any special symptoms.

【Discussion and Conclusion】

Under the high-power field of view of the microscope, the treatment was relatively easy with an interdental dehiscence of about 200 μ m. Direct bonding using separators is a treatment method that efficiently demonstrates the superiority of the microscope, since no matrix or other material that blocks the field of view is used, there is no blind treatment in all processes from bonding operation to filling and polishing.

Composite resin restoration method in class II cavities by applying surface tension with separator.

So Higuchi

Higuchi Dental Clinic

【Introduction】

This time I will report that I restored accurately class II cavities with composite resin by applying surface tension after separating between teeth with separator, and this method improve the fit of restoration margins, and reestablish properly the proximal contact.

【Case】

A 27-years old woman visited clinic, complaining of tooth sensitivity in the right upper posterior region. First clinical examination showed caries in #14 distal and #15 mesial. And dental radiograph showed a proximal carious lesion on the distal surface of tooth #14 and the mesial surface of tooth #15.

【diagnosis】

Proximal caries (#14,15)

【treatment plan】

Restoring with composite resin for proximal caries after removing caries

【progress】

After #14 caries was removed with microscope, separated between teeth by Ivory Separator. And the cavity was restored applying surface tension. Postoperative radiograph was showed good margin fits. At two years after treatment, no obvious clinical findings were observed, and it makes good progress.

【Discussion and Conclusion】

Filling technique applying surface tension invented by Dr.Mitsubishi is method that fit of restoration is improved dramatically for small caries, class V. In classII cavities, metal and ceramic inlays are used in indirect restoration, otherwise composite resin is used in direct restoration. It is generally used sectional matrix system in restoring relatively large class IIcavities. But in this case composite resin is sometimes leaked, and it takes long time for modification after filling. By separating between teeth and filling applying surface tension, the composite resin is not leaked at all, and fit of restoration is improved. And with separating between teeth, smoothening steps by metal strips and polishing, modification time become short significantly, and it can be recovered appropriate contact. I suggested that it was effective method for composite resin restoration in class II cavities.

Periodontal regeneration therapy using PRGF -EPPT-

Takeshi Haga

Gakkentoshi dental & orthodontic clinic

(1) Introduction

It has become possible to change the prognosis by performing periodontal regeneration therapy for intrabony defects. For successful regenerative therapy Space making, maintenance of the regeneration environment, and acquisition of primary closure are important. Most intrabony defects are present in the interdental papilla. The interdental papilla has poor blood flow compared to other parts, and primary closure may not be achieved. However, it is possible to improve the primary closure rate by devising the flap design. In addition, it is possible to promote the regeneration of periodontal tissue by using PRGF together. We will show you a case in which the isolated intrabony defect was improved by using PRGF together with the Entire Papilla Preservation Technique. I would appreciate it if you could give us your opinion.

(2) Cases

The patient was a 52-year-old woman who visited our hospital with a chief complaint of swelling of the gums. The clinical findings at the first visit showed redness of the gingiva on all jaws. X-ray findings showed vertical bone resorption localized to 31 32. Periodontal tissue examination revealed 7 mm and 6 mm pockets at 31.32 and drainage.

(3) Diagnosis

Localized Periodontitis StageIII Grade C - 2017 classification

(4) Treatment plan and Progress

When the initial periodontal treatment was completed and re-evaluation was performed, a periodontal pocket of 6 mm at 31 centrifuge and 6 mm at 32 mesial remains, and a subliminal defect was observed. Therefore, we decided to perform periodontal tissue regeneration therapy under a microscope. With EPPT as the flap design, granulation tissue was removed using a yag laser or microcurette under a microscope, the root and bone surfaces were carefully cured, and periodontal tissue regeneration therapy was performed using PRGF and autologous bone. One year after the procedure, the periodontal pocket was reduced to 2 mm. By using EPPT for the flap design, regenerative therapy was performed without making an incision in the interdental papilla, so good results were obtained without gingival recession. We are currently performing maintenance once every three months.

(5) Discussion / Conclusions

Initial closure is important for successful periodontal tissue regeneration therapy. By using a microscope, it is possible to reliably remove the source of infection with minimal invasion. In addition, using EPPT for the flap design is effective because it does not make an incision in the interdental papilla, so there is no risk of dehiscence and more stable blood clots can be obtained. We believe that the combined use of PRGF is effective for the success of periodontal tissue regeneration therapy.

Periodontal regeneration for Microscope to #42 using M-MIST

Nozomi Maniwa
Kizuna Dental Clinic

【Introduction】

Periodontal regeneration therapy is a best way to improve bone defects. But this therapy is technique sensitive and if it fails, the condition can be worse compared to before surgery. If we can use M-MIST or MIST in periodontal regeneration, we can be more successful. This case is severe periodontal case.

I did M-MIST using microscope and improved deep pocket.

【Case】

This patient is a 42-year-old female. Her chief complaint is ongoing pus to #42. At the first visit, there was gingival swelling and redness, vertical and horizontal defects in some teeth. After finishing initial treatment, #42 remains a deep pocket and pus. I did periodontal regeneration therapy to #42 using M-MIST.

【Diagnosis】

#42 severe periodontal disease stage3 gradeB

【Treatment plan and Progress】

This bone defect has only interdental area and this defect didn't invade to the lingual side. So I chose M-MIST technique in this area. I incised using MPPT technique and debridement of only small buccal area. I used EDTA to clean tooth surface and placed EMD. After that, I did modified vertical mattress suture using 6-0 nylon thread. This thread was removed 2 weeks after surgery. Healing and progress was good. Primary closure was achieved. Pocket depth was stable and the pus disappear.

【Discussion and Conclusion】

Minimally flap design and using microscope and micro instrument improve primary closure. I chose M-MIST this surgery because this defect has limited area in particularly interdental area. If you select minimally flap design, you can get primary closure more successfully. If you select this flap design and you can't remove bacteria in this small buccal area, you should broad flap design from M-MIST to MIST or access flap. Most important thing is to remove bacteria certainly.

Bilaminar technique for multiple gingival recession

Makoto Hagihara
Kizuna Dental Clinic

【Introduction】

The patient is a 28-year-old female. Her chief complaint is to improve the esthetics of #11 #21 gingival recession. The cause was considered that the phenotype of the periodontal tissue was very thin. To reconstruct the lost gingiva, I applied a bilaminar technique that combines coronary advance flap with connective tissue graft. Treatment under a dental microscope is effective for treating very thin tissue.

【Case】

The periodontal probing depth of the tooth was 3 mm or less. The amount of attachment loss from CEJ was 2 mm in #21 and 3 mm in #11. The goal was to completely cover up to CEJ. Connective tissue graft was fixed to the exposed root surface with a periosteal suture, was completely covered by moving the flap coronally using a vertical incision and a releasing incision. The outer shape of the flap was trapezoidal, and only 3 mm from the exposed root surface to the apical side was performed with a full thickness flap, and the other area was performed with a split thickness flap. Connective tissue graft was harvested from the left palate. All sutures were performed using 7-0 absorbent sutures and all procedures were performed under a dental microscope.

【diagnosis】

#11 21 gingival recession

【treatment plan and progress】

Threads were removed at the visits 1 week and 2 weeks after the operation. One year after the operation, the progress is good. Complete root coverage up to CEJ was achieved.

【Discussion and Conclusion】

There are various surgical methods for root covering of multiple teeth. Compared to the closed technique that does not use a vertical incision, this technique is an open technique that uses a vertical incision and is more likely to cause scar formation. However, the closed technique has a high risk of poor flap mobility and visibility, and flap damage during envelope flap formation to insert connective tissue graft.

In order to provide sufficient mobility for thin flap to completely cover the connective tissue graft, I used an open technique. To prevent scar formation after surgery, the flaps were not damaged, and instruments such as scalpels were handled delicately, and fine threads were used. Unless under a dental microscope, it is very difficult to suture properly with a 7-0 suture. The good results were obtained because it was under a microscope, and the procedure was able to comply with the principles of incision, elevation flap, and suturing.

Consideration of Direct Visual Control

Shigetoshi Omote

Omote Dental Office

Introduction

In this presentation, I would like to report on the treatment method by direct visual control examination, which mainly uses the microscopic mirror technique, through the cases of impacted wisdom tooth extraction performed by the performer in daily clinical practice, and reconsider the meaning of direct vision and direct examination.

Case1 24 years old man, a half-impacted wisdom tooth on the right side of the maxilla.

Diagnosis The crown was digging into the second molar centrifugal undercut and the root was close to the maxillary sinus. The degree of eruption was lower than the occlusal surface of the second molar, and the inclination angle of the tooth axis was mesially inclined by 5 degrees or more.

Case2 33 years old man, right half impacted mandibular tooth.

Diagnosis Pell-Gregory classification Class I Position B Winter classification horizontal

Treatment plan and progress

Case 1 The alveolar crest incision in the distal part of the second molar and the gingival sulcus incision in the second molar were performed to dissect the crown, and the crown was divided with a diamond bar from the occlusal surface direction under a microscope to remove the crown from the gap. The tooth root was removed. Since the buccal bone was not removed, the bones on the three walls could be preserved. Hemostasis was confirmed by suturing.

No postoperative pain and swelling.

Case 2 The second molar distal part and gingival sulcus incision were performed, and the crown was divided under a microscope with minimal peeling. After removing the crown, the root was removed and sutured. No postoperative pain and swelling.

Discussion

Many clinicians recommend a method of removing the buccal bone and extracting the tooth without splitting the crown as a method of extracting the maxillary impacted tooth because it is "difficult to see directly". In many cases, it was difficult for the bone to regenerate due to the distal second molar. The approach from the occlusal surface side by "direct visual control" under the microscope makes it possible to safely perform crown division and tooth extraction, and the bone defect after tooth extraction is three walled to centrifuge the second molar. It can be expected that bone regeneration will be promoted. Blind division is common for crown division of mandibular impacted wisdom teeth. Implanted wisdom tooth extraction by direct vision and straightening provides higher safety by adding vision in addition to finger sensation, and enables minimally invasive impacted wisdom tooth extraction by minimal incision, detachment, and bone removal.

Conclusion

From the above, in the field of oral surgery, the treatment by direct visual control under a microscope, which mainly uses the mirror technique, is considered to be a very effective method from the viewpoint of safety, invasiveness, and protection of adjacent teeth. Now that more than 20 years have passed since Japanese practitioners introduced microscopic treatment, it may be necessary to reconsider the meaning of the word "direct visual control" as The Next Stage of Microscope Dentistry.

Effectiveness of semiconductor laser using a microscope

Seiki Toda

Taneichi dental Toda clinic

【Introduction】

I report that the use of a microscope and a semiconductor laser has improved the accuracy of subgingival treatment. Microscope and semiconductor laser are effective for Intra oral scanner operation because they can perform precise gingival resection

【Case】

【diagnosis】

Case1 The formation limit was clarified by removing the deeply advanced caries and gingivectomy with a semiconductor laser.

Case2 Cases of excision of defective granulation tissue and cysts remaining in the extraction socket after hemisection

【treatment plan and progress】

With the gingiva removed, the dentin is morphologically modified with a composite resin, and the margin is set on the edge where an Intra oral scanner is easy. Make an optical impression and bond the created restoration with resin cement. After that, cement is removed and polished to check the subgingival fit.

Careful incision of the boundary between the semiconductor laser and the bone under the magnified field of view of the microscope makes it easier to remove defective granulation as a mass.

【Discussion and Conclusion】

The combined use of a microscope and a semiconductor laser makes it possible to clearly indicate the margin with a minimum of excision while controlling bleeding, which is effective in achieving well-fitted repairs.

It seems that the burden on the patient can be reduced by fine excision and hemostatic effect.

Examination of droplet condition and droplet prevention during dental treatment

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³ Dental Mitsuhashi

【Objective】

In recent years, with the spread of COVID-19 infection, the problem of droplets in dentistry has been taken up in various fields. However, not only COVID-19 but also many bacteria and viruses are a problem in dentistry. Although droplets in dental clinics have been attracting attention for some time, there are few reports on the detailed scattering situation. In addition, during dental treatment, droplets containing viruses and bacteria adhere to goggles, lab coats, hats, and the like. As a result, gowns, hats, masks, and goggles all need to be replaced each time, which leads to increased costs and a shortage of personal protective equipment (PPE). Furthermore, no specific measures to prevent droplets on the dental microscope have been established, and measures are required to provide safe medical care to patients, surgeons, and assistants while performing precise dental treatment. This time, as a countermeasure, we decided to use a microscope drape devised by the performer to examine the effect on preventing droplet scattering.

【Subject】

Observe and analyze the scattering of droplets generated during dental treatment to the surgeon, assistant, and surroundings. In addition, consider measures to prevent droplet scattering.

【Material and Method】

A jaw model was attached to a simple mannequin (NISSIN, Japan), and # 16 FMC was formed using a diamond bar 106 / RD (Shofu, Japan) attached to a 5x speed contra. The conditions at the time of formation were set with / without microscope, with / without vacuum, with / without microscope drape, and with / without air conditioning system. Under each condition, we observed and analyzed the scattering of droplets generated during grinding to the surgeon, assistant, and surroundings. For observing droplets, a) Laser light irradiator PIV LaserG2000 (Kato Koken Co., Ltd., Japan), LED light source irradiator PV2-L (Kato Koken Co., Ltd., Japan), b) Fine particle visualization system PV2- L (Made by Kato Koken Co., Ltd., Japan), c) High-speed camera Phantom Miro M320-S Monochrome type (Made by NOBBYTECH, made in the United States) Using the above three devices, PIV (Particle Image Velocimetry) is not used for analysis. A method for measuring the velocity distribution in a two-dimensional cross section by contact) was used.

【Result】

The use of a microscope reduced the amount of droplets adhering to the operator's face. In addition to vacuuming, the use of microscope drapes further significantly suppressed droplets on the surgeon, assistant, and surroundings. It was confirmed that there was some reduction in droplets even when the airflow was operated by the air conditioning equipment.

【Discussion and Conclusion】

The use of a microscope reduced the amount of droplets adhering to the operator's face. It is considered that the amount of droplets attached was reduced because the operator's face was separated from the surgical field by keeping the distance from the eyepiece to the surgical field by using the microscope. In dental treatment, droplets are often scattered, and the surgeon / assistant is likely to be exposed to many bacterial / virus infections. However, the use of a microscope drape devised by the performer was able to prevent the diffusion of considerable droplets. It was also considered that it could lead to a reduction in PPE consumption. From this, it was suggested that the usefulness of the microscope in dentistry would be further increased.

About a change of the drop of water scattering by the difference in position of the vacuum at the dental treatment and tip diameter

Ayu Fukae

Higuchi dental office

【Introduction】

As the rotary cut appliance has much use under the irrigation, a drop of water is scattered to a mirror, a face, a practiced hand and the assistant of patients in the dental treatment. The difference in operation and tip diameter made possible to suppress the drop of water scattering, and it thought that it might increase, and it almost examined patients, a practiced hand, the treatment comfort of the assistant that an assistant used vacuum.

【Objectives】

It is intended to add to patients, a practiced hand, comfort at the treatment of the assistant by conducting appropriate vacuum work, and a comparison examines the effect that a vacuum position and the difference of the vacuum tip diameter give to a drop of water scattering range, ease of the vacuum operation, the operation field.

【Methods】

We cut the occlusal surface of the top right corner first premolar of the jaw model that we pressed buccal mucosa against with the round bur which we attached to a micromotor under the irrigation.

We photographed a video and a still image with a smartphone in the glance of a position of the vacuum, a range, a microscope of the drop of water scattering to a mirror by the difference in tip diameter of the vacuum, the scattering situation to the oral cavity circumference and the assistant.

The position of the vacuum set it from top right corner first premolar in approximately five, 30, three places of 60mm. The tip diameter of the vacuum used approximately five, 10, a thing of 20mm.

Under each condition, we weighed a drop of water scattering range and an assistant glance with a video and the still image which we photographed.

【Results】

About the scattering range of the drop of water, vacuum position relations found that a scattering range was the smallest in the condition of nearest 5mm and tip diameter 10mm of the vacuum from the cut site.

The effect on ease and operation field of the vacuum operation was found to be easy to do the position definite decision without a position of the vacuum blocking a practiced hand and the assistant glance in the condition of 30mm or more and vacuum tip diameter 5-10mm from the cut site.

【discussion, conclusions】

We bring vacuum close to the cut site, and the scattering of the drop of water is suppressed by a tip diameter using major vacuum, but we shut out the operation field in vacuum, and it is in a situation that a cut site is hard to confirm the assistant.

The thing having a small tip diameter improves operability and the visibility, but the drop of water scattering range becomes wide. However, as the glance of the practiced hand was projected for a monitor by the camera which a microscope had built-in, positioning came to be able to make the tip of the vacuum into the assistant near the cut site while confirming a monitor if possible. It reduces the unpleasantness around the face of patients to suppress the scattering of the drop of water and is connected in finding the field of the practiced hand, and the risk to bathe in spray of water can further relieve a practiced hand and an assistant.

It was the examination with the premolar, but it is required this time to rearrange in the small vacuum of the tip diameter appropriately because the scene where it is more difficult to be hard to obtain a field, and to use the major vacuum of the tip diameter including the small molar of the range of motion comes out by the real clinic. We examine both operation field and drop of water scattering range on this occasion by being able to confirm an assistant when by thinking about position relations and a tip diameter of the vacuum, and coming to be able to perform appropriate assistant work, can perform more comfortable practice.

Considering fissures in direct bonding of molars

Yoshinori Nokame

NOKAME DENTAL CLINIC

[Introduction]

Making the fissure of the posterior tooth is one of the important point in the direct restoration using a composite resin, which is called direct bonding. The work of creating a deep and fine fissure that mimics natural teeth may be the part that the surgeon's commitment reflects (most). However, deeper and finer the groove, more difficult it is for the polishing tool to reach the deep part of the fissure. It causes prolonging the time required for polishing, entering abrasives and paste into the fissure, and resulting in postoperative coloration, food residue, straying and calculus deposition.

[Aim]

In order not to cause these problems, I tried to "eliminate the need to grind the fissures" and "to make fissures which look like deep and fine but not so deep". If these requirements can be satisfied, it should be possible to reduce the time of polishing and to facilitate maintenance after restoration. This time, I would like to present a way of thinking and practicing on my own that fulfills these requirements.

[Materials and Methods]

A first-class cavity is formed in an epoxy artificial tooth (Nissin), and a paste-type composite resin is used, using the "method of filling in a mass and carving a fissure" and "method of making one cusp at a time", which are common in direct bonding. After the restoration, those coated with nano-coat color clear (GC) and those not coated were cut and the cross section was observed under a microscope.

[Results]

When creating fissures, nano-coat color clear (GC), a liquid-type characterization material, is used to fill fissures using an extra-fine brush, resulting in deep and fine complexities that occur with CR shaping. Simplify the bottom surface of a fissure with the method of fissure sealant. Since it is transparent, it looks as though there are deep fissures, but when cured, it actually becomes a shallow fissure with no depth.

The nano-coat color has a durable and smooth physical property after curing, and polishing is not required by using this method.

It is possible to provide a simple shallow fissure with high cleaning performance and easy maintenance, while seemingly a deep and fine natural fissure like a natural tooth. By applying the nano-coat collar to the fissures, polishing in the fissures, which is extremely difficult to reach with a polishing instrument, becomes unnecessary, and the polishing time is

[Discussion]

Unlike the fissures of natural teeth, the fissures created by CR by direct bonding do not cause caries. However, coloring and deterioration of physical properties due to insufficient polishing, and tartar deposition due to stagnation of food residue and plaque cause difficulty in cleaning fragile CR restorations. Similar to applying preventive sealant to natural tooth fissures, direct bonding fissures are also useful as a method of simplifying the polishing step while preserving aesthetics and simplifying fissures and improving cleanability.

Absolute humidity of various moisture control devices

Hidetaka Nakanishi

KIRIN Dental Clinic

【Introduction】

Due to recent advancement in adhesion techniques in clinical dentistry, adhesion has become an essential factor in microscopic restorative dentistry as well as prosthodontics. For dependable adhesion with dentin in the oral cavity, many substances which inhibit adhesion such as plaque, calculus, blood, saliva, and humidity must be eliminated. Generally, as humidity increases, adhesion strength decreases. However, details regarding humidity and the characteristics of the isolation devices are not well known.

Humidity as an indicator inside the oral cavity can be measured as relative humidity or absolute humidity. Relative humidity (%RH) measures the amount of moisture in the air at a certain temperature compared to maximum water vapor saturation. Absolute humidity measures how many grams of water vapor are present in one cubic meter of air, and is a fixed value that is not affected by temperature change. Habe, et al.¹ reported that absolute humidity is suitable as an indicator of humidity. In order to determine absolute humidity verification of the change in humidity in the oral cavity was carried out for various isolation devices at this time.

【Objective】

In order easily select the optimal device for each clinical case of microscopic treatment, absolute humidity in conjunction with the use of various isolation devices was measured and convert it into a numerical value.

【Material and Method】

Absolute humidity was set as the standard. The temperature/humidity meter DT-3321 (MK Scientific, Inc.) was used. Target teeth were isolated by 2mm, and humidity in the mouth, room, dental cotton roll, air blower, ejector, multifunction vacuum tip zoo, oral guard, rubber dam isolation (nose out, nose in), were measured and compared in this study.

【Result】

A significant reduction of humidity in the oral cavity was observed in cases which used various isolation devices. A slightly larger reduction of absolute humidity was observed in vacuum type isolation devices compared to rubber dam. However, according to previous reports, this difference was within tolerance.^{1~3)}

【Discussion and Conclusion】

Regarding adhesion which is influenced by humidity, vacuum type isolation devices are appropriate. For clinical cases where other factors which inhibit adhesion can be eliminated, this method is considered ideal due to its clinical effectiveness and simplicity. However, there are many factors which inhibit clinical adhesion, and eliminating other factors by vacuum type isolation devices alone is difficult. In other words, use along with a rubber dam etc., is preferred. Achieving absolute humidity with various isolation devices to numerical values close to the standard value is considered important in the selection of devices for microscopic treatment.

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Approaches to the Fabrication of Temporary Crowns under Magnified Vision

Tuneaki Takahashi

Takahashi Dental Clinic

【Objective】In the fabrication of interim crowns, impressions are often taken and fabricated by a dental technician. On the other hand, there are many cases where interim crowns are needed on an emergency basis, such as in patients with collapsed crowns and many teeth that require root canal treatment. Therefore, it is important to fabricate precise interim crowns with minimum morphology accurately and quickly at the chairside. The minimum morphology requires anatomical morphology, especially margin morphology, labial and lingual augmentation, i.e., continuity with adjacent teeth, line angles, and drilled voids. In general, the teeth are cut and adjusted outside the oral cavity while considering the relationship with the adjacent teeth, and the cutting and adjustment are repeated outside the oral cavity after trial fitting and confirmation. If it can be formed and adjusted in the oral cavity while directly looking at the adjacent teeth and soft tissues, it will not have to be removed and reattached many times, and as a result, an aesthetic form that is in harmony with the adjacent teeth can be given. In addition, the speaker thought that it is important to use a microscope to prevent excessive shaving and soft tissue involvement in temporary crowns and to modify the morphology of the margin area. As the use of microscopes is becoming more widespread, efficient fabrication of provisional crowns may be beneficial to many dental clinics.

【Subject】The fabrication of interim crowns using a microscope will be discussed.

【Material and Method】The chair time and margin morphology were compared and examined in the cases of temporary crowns made using a microscope and those made without a microscope. In addition, a feather-touch cutting technique with a stable rest based on ergonomics, stable posture, positioning, and mirror work were required for precise manipulation under a magnified view. In this study, a Leica M320 microscope (with Ultralow) was used, and a Zeck rear carbide bar and a bud-shaped diamond point were used as cutting instruments. The former has a high cutting force and is efficient in modifying the external shape, while the latter is very useful in giving the occlusal surface form.

【Result】The fabrication of interim crowns is usually done outside the oral cavity, but when the adjustment was done in the intraoral trial, the following effects were observed. First of all, the number of attachments and removals was shortened, and the chair time was dramatically reduced from 15 minutes to 8 minutes because the morphology of the teeth could be corrected while viewing the morphology visually rather than imagining it. While maintaining the optimal position of the patient and the surgeon, the surgeon aims the microscope perpendicular to the oral cavity from the back position and operates the handpiece with positioning based on the human's natural senses. In mirror work, the tooth is captured from a 360-degree angle and the mirror is linked to the movement of the bar, making it possible to cut while checking the margin without damaging the soft tissue or adjacent teeth, and thus providing a precise margin form and anatomical form. Furthermore, the reduction of the surgeon's work area directly led to a reduction of the assistant's work area, which had a positive effect on both parties.

【Discussion and Conclusion】One of the issues was the dust problem on the mirror surface and in the mouth. On the mirrored surface, dust and cloudy water splashes during the formation process, making it very difficult to see. In this regard, it would be effective to place the mirror in a place where it will not be exposed to dust, and if it is exposed, the assistant can use a three-way syringe to clean the mirror surface in a timely manner. In addition, thorough vacuuming techniques and intraoral rinsing with a three-way syringe were effective in minimizing the adhesion of dust particles to the oral cavity. In conclusion, although there are some issues to be addressed, the fabrication of intraoral provisional crowns under a microscope was suggested to be effective in significantly reducing chair time and completing provisional crowns with precise tooth morphology.

Timing of recording and explanation

Hiroki Endo

Medical corporation Enterdo, Natural Dental Office Hashimoto

【Objective】In recent years, microscopic dentistry has converged with insurance treatment and many dentists are using it, and although it is obvious that the microscope makes magnification possible in dental treatment, this is just half of the attraction of the microscope. One of the major attractions of the microscope is that the magnified view of the operative field can be recorded as it is and shown to the patient in real time. We consider this to be a paradigm shift in dentistry, and we will consider and present the timing of treatment video recording and patient explanations to make it easier for patients to understand the dental treatment.

【Subject】Considering the timing of video recording in various treatment situations, as well as deciding when to explain the treatment, and offering it to the patients to help them understand the dental treatment. By helping the patient understand his or her current dental condition and dental treatment, you can expand the range of treatment options you can propose, and you can provide the patient with practical cases.

【Method】Take videos of various dental procedures at different times. Not all of the videos are taken, but the timing and length of the videos are designed to be understood by the patient. The videos are then explained to the patient after the treatment. The effective timing of the explanation is presented. While showing the videos of three actual cases, I

will report on how the patient's response changed after the explanation.**【Result】**①After caries removal, the size of the caries and the subsequent treatment were explained using a video.→ The patient was able to better understand the explanations in the video, and came to want to preserve healthy tooth quality, which was a priority for the treatment method. ②The patient was referred to an oral surgeon, but the problem was not solved, so she came to us for a second opinion.→ Confirm the crack in the video and showed it to the patient and explained the possibility of nonvital. The patient was convinced and moved on to root canal treatment. Pain improved. ③At the time of the first visit, the patient had no main complaint and came to the clinic for a checkup.→ There are many things that can be seen by observing the teeth under the microscope during the first visit. Also, by showing her the video, she recognized the need for treatment.

【Discussion and Conclusion】I believe that the dental microscope is a new tool that can connect dentists and patients. The dentist can perform dental treatment smoothly by forming a rapport with the patient, and I thought that by providing the patient with the microscope and considering the timing of video recording and explanation, rapport can be formed easily and the patient will trust the dentist more. During microscopic dentistry, it would be more effective to consider the timing of the explanation to the patient in various cases, and to take video footage in consideration of the patient's easy understanding of the dental treatment. I felt that by taking videos not only for the sake of taking videos, but also with the subsequent explanations in mind, the level of understanding of the dental treatment by the patients greatly increased through the use of microscopic dentistry and the videos, and they were able to choose the subsequent treatment with satisfaction. By discussing the timing of video recording and explanation of microscopic dentistry, I hope this article will help you in your daily microscopic dentistry.

Ceramic restoration on different lesion of central incisors

Chang Kai Jung
Honor Dental Clinic

【Introduction】

Under minimal invasive dental concept, I would like to collect different type of ceramic prosthesis to distinct lesion of central incisors.

【Case】

Five cases with different size of lesion in central incisors.

【diagnosis】

Differentiate value of the teeth by shade guide and field of prosthesis by lesion size.

【treatment plan and progress】

Use partial feldspathic veneer, feldspathic veneer, lithium disilicate veneer and porcelain fused to zirconia to rebuild function and aesthetic of central incisors.

After color match, proper preparation and impression are proceeded. Use try in paste for final aesthetic confirm and cement by the same shade resin cement.

With different ceramic prosthesis, I keep the health and aesthetic of central incisors.

【Discussion and Conclusion】

It is a challenge to restore the teeth under minimal invasive concept. However, the more we learn, the closer to the balance between beauty and health

microscope assisted esthetic dentistry

Chang Tzu Yang
pretty smile dental clinical

【Introduction】

High esthetic needs represent a challenge for clinicians. Technological devices can help us develop a smooth working flow, and predictable outcome. This case report shows a working flow of treating esthetic cases with ceramic laminate veneers.

【Case】

The 28 years old female was looking for esthetic improvement due to inadequate teeth shown, gummy smile and spacing between the incisors. The diagnosis of gummy smile was altered passive eruption. The upper incisor angle was too upright to support the lower lip, causing the lower lip to cover the upper incisor edges when she smiled.

【diagnosis】

altered passive eruption.

【treatment plan and progress】

After the DSD, the mock-up was fabricated using a silicone index of the newly waxed-up cast as a template to evaluate the esthetic outcome. Then, the crown lengthening procedure was performed to recreate the symmetry of the gingival margin and to correct the incomplete passive eruption over the anterior teeth area. Three months after the crown lengthening procedure, the prosthetic finalization was carried out. Minimally invasive tooth preparation was performed with the use of dental microscope from upper canine to canine. Six feldspathic veneers were bonded with the standard bonding protocol.

【Discussion and Conclusion】

The smile line was harmonious, and the teeth provided ideal lip support. Psychological improvements were also seen, as there was an increase in the patient's self-confidence. The orthodontic treatment was not considered in this case, because the patient had limited time for treatment. Since the treatment outcome was already satisfied, long term and complex procedures might not be necessary in this case.

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Web 開催

|大会長| 和田尚久 |九州大学病院 口腔総合診療科

|大会実行委員長| 原口 晃 |九州大学病院 口腔総合診療科

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