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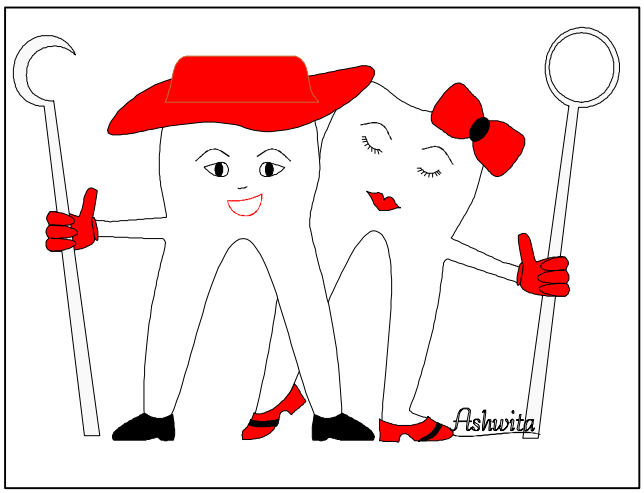

In This Issue:

From the Editor's desk

Information explosion is here. Dental awareness is increasing . To keep pace with it, we have to provide the best available dental treatment. As a busy practitioner, it is humanly impossible for you to leaf through the multitude of literature. Also it is very confusing with the market flooded with so many materials, to know what to use and what not to use to suit ones own style of dental practice.

About five years back, I received a letter from my classmate, that he had purchased a composite kit at a dental conference and since he didn't have much knowledge of composites, requested me to send some information. He had been practicing in a village after passing his B.D.S. in 1976. I sent him a small write up on composites which I thought will give him the knowledge and confidence to start using the new material.

The Survey:This incidence always remained in my mind and I conducted a questionnaire survey of two thousand dental practitioners. The feed back clearly showed that all of them were very keen in getting updated knowledge but only a few had the access and means to attain the same. And hence finally the birth of this news letter mainly with the objective of serving the General Dental practitioner- the back bone of dental services in our country.

The Step Forward:"Render the best treatment in minimum time with least pain to the patient and keep occupational hazards at bay." With this motto, the Health Care Trust takes a firm step forward, shouldering the responsibility of bringing to you the latest information on treatment techniques, dental materials and equipments. It will be our endevour to always bring you the very best and the latest and for this purpose we have tied up with the leading clinical research body in USA, the Clinical Research Associates.

Resistance to change is inherent in human nature. This resistance will be more if doubts exist regarding the change. In our effort to serve you with the above objectives we shall be very happy to receive any feed back from you. I also request all friends to come forward and share their thoughts and knowledge for the benefit of practitioners, such contributions to this newsletter will be deeply appreciated and duly acknowledged.

Dr. Beena Rani Goel, M.D.S.

BLEACHING OF TEETH

Whether it is for social, professional or psychological reasons, patients turn to dentists for treatment of discolored teeth. Over the years, hydrogen peroxide has proven to be the bleaching agent of choice[1,] It probably removes the stains by an oxidation process. It acts by releasing oxygen and mechanical cleansing. This results in lightening and whitening effect known as bleaching[2]. Hydrogen peroxide has been demonstrated to have the ability to penetrate both enamel and dentin.

Most of the techniques which had been advocated to increase the hydrogen peroxide penetration used heat to speed up stain removing reaction. Although this heat application causes no irreversible damage to the pulpal tissues, it does lead to inflammatory changes.

The **Shofu Hi Lite** bleaching system(Shofu dental Corp. USA) is a revolutionary method of in-office bleaching. It employs a powder liquid system which utilises a dual activation technique for hydrogen peroxide. It gives satisfactory results even for tetracycline stains removal when banding is not evident.

The Clinical Technique is very simple and can be mastered easily. Teeth to be bleached are isolated with a rubber dam after applying vaseline to the surrounding soft tissues to avoid gingival irritation. The teeth are cleaned with a rubber cup carrying a slurry of pumice in water, thoroughly rinsed and dried. The Hi Lite powder should be mixed to a paste like consistency. The resulting **green** mixture should be applied to the labial surfaces of the teeth. On completion of bleaching, the green colour will turn white, which takes about 5-8 minutes. This reaction can be speeded by exposure for 60 seconds to a **composite curing light**.

The teeth are rinsed, dried and a second application repeated in the same manner. Approximately one shade of Vita would improve by each application.

The treatment may be completed in one to three treatment sessions at an interval of one week, depending on patient satisfaction. Bleaching effect is expected to last 3-5 years as with other systems.

Advantages:

-Heat application is eliminated.
-Incidence of post operative sensitivity is less.
-Paste like consistency after mixing provides ease of precise placement.
- Can be used for vital and non-vital bleaching.

Ref.:

1. Mc Evoy S.A.: Quintessence Int. 20:379-384,1989.
2. C.G. Toh: Asian J. Aesth. Dent. 1:65-70,1993.

(This kit is sold by International Trading Corp. of India 1107-B Bazar Paiwalan, Jama masjid,Delhi-110 006)

We invite eminent practitioners and teachers of dental colleges who have the desire to contribute to this news letter regularly, to join us as contributing editors. Please send your contributions to:

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THE NEW ERA (Composites)

Composites are here to stay, rapid research in this area has improved the quality of these materials over the years and several new applications have been found. *Learn all about composites or be left out* is the present day dictum.

* If your composite restoration has failed check the following points:

1. Have you chosen a quality material which is not expired? Resins have a shelf life.

   Refrigeration is very desirable to avoid degradation of the material.

2. Proper case selection.

3. Proper etching and subsequent isolation. Don't forget the composites are very technique sensitive, any small mistake can lead to failure.

4. Proper use of dentin bonding system.

5. Adequate cure of resin in small increments.

6. Resin impregnation technique.

Use of special plastic and **Teflon coated** instruments on to which the composites do not stick are very helpful in doing these restorations. Once you have mastered the correct technique, you can certainly manage most of restorative work with composites, it takes less chairtime, is easy on the patient, needs to cut less healthy tooth structure. The misconception is that composite is expensive, but if you take into account the chairtime saved, you will find it as economical as silver amalgam.

** When dentin walls are present, use of a dentin bonding system is desirable. Take care not to desiccate the dentin by prolonged air spray or the bonding agent will not flow readily. Light cure the bonding agent for 20 seconds.

Here it is worth mentioning about four latest products -

Prime and bond (Caulk)

One Step (Bisco)

Liner Bond 2 (Kuraray)

Syntac-Single component by (Vivadent)

These products reduce the number of steps i.e. instead of three steps etch, prime and bond, only two steps are needed - prime and bond. This simplifies the bonding procedure and saves time. We used the Liner Bond 2. and found it to be very useful and convenient. Watch for future studies to know the real value of these products.

*

** These are the excerpts from the book titled "***Restorative dentistry in daily practice***, A guide to the use of Dental Amalgam, Composite resins and Glass ionomers" published by the Health Care Trust, Belgaum.

FUTURE ARTICLES TO APPEAR IN THIS NEWSLETTER

Amalgam bonding

Conservative cavity preparation

Computers in dental practice

Glass ionomer can do wonders

Labial veneers

How to succeed in RCT

Dentin bonding systems

Dental imaging

Rubber dam application simplified

Home bleaching systems

#CRA REPORT

Silver Amalgam, Update-1995

Amalgam has been controversial since its introduction, & 1995 is no exception. Current activity shows: 1. Amalgam is, or will be, banned in some countries because of its alleged toxicity and allergenic potential (e.g. Germany & Sweden); 2. Amalgam debris & mercury are environmental hazard concerns in some countries(e.g. Japan); 3. Preliminary results of recent CRA survey of Practitioners (2600 of 7700 responses tabulated so far) shows 8% of respondents (mainly North Americans) think Amalgam should not be used and 79% still consider it useful; 4. Increasing number of patients deny use of Amalgam when informed of other restorative alternatives ; & 5. Esthetic continues to stimulate people toward tooth colored restorations.

Question To-day; Is silver Amalgam still the major restorative material, or are there viable options?

This report: 1. Compares clinical characteristics of silver amalgam with 10 alternatives and indicates alternatives with most promise; 2. Encourages patient education; & 3. Stresses patient informed consent after receiving information on posterior tooth restoration alternatives.

1.ALTERNATIVES FOR AMALGAM-1995 STATE -OF -ART

restorative therapy	Color	* Longevity	No. of appt. need	cost	Ideal use small med. large restoratio	Current knowledge about concept	current use	$ Potential for contd. use
1.Amalgam	silver	Mod.-long	1	low	S,M	high	high	moderate to high
2. cast gold	gold	long	2	high	M,L	high	low to moderat	high- decreasing
3. Ceramic cast	tooth	moderate	2	high	M,L	moderate	low	low to moderate
4. Ceramic, fired	tooth	moderate to long	2	high	M,L	moderate	low	low to moderate
5. ceramic , pressed	tooth	mod. but may be long	2	high	M,L	low to moderate	low	moderate
6. composite resins(direct)	tooth	moderate to long	1	low to moder.	S,M	high	moderate to high	high- gaining
7. composite resin(direct inlay)	tooth	moderate to long	1	moderate	M,L	moderate	low	low
8. composite resin(direct-indirect)	tooth	moderate to long	1	moderate	M,L	moderate	low	moderate
9. composite resin(Indi)	tooth	moderate to long	2	high	M,L	moderate	moderate	high- gaining
10. CAD-CAM	tooth	mod. but may be long	1	high	M,L	moderate	low	moderate gaining
11. Mech. milled indir. rest.	tooth	mod. but may be long	long 1 or 2	high	M,L	low to moderate	low	moderate

*** Assuming acceptable quality restoration placed in proper indications.**

$ Those procedures receiving high ratings show most current & future potential & deserve attention.

CLINICAL SUCCESS IS THE FINAL TEST

2. PATIENT EDUCATION: Most patients don not know there are 11 alternative materials that can be considered from small to large class II restorations, exclusive of crowns. Patient education concerning treatment options should be accomplished using pamphlets, books, videos, models and verbal discussions. This is legal and moral obligation of dentists in 1995. Many current patient educational aids are available including recent book "*A Consumer's guide to dentistry*." (Christensen G. J, Mosby Inc., 11830 Westline Industrial Drive, St. Louis, MI 63146) and numerous educational pamphlets from American Dent. Assoc. and other sources.

3.**INFORMED CONSENT:** In U. S. many dentists do not realise it is legal responsibility of dentist to inform patients about choices of restorative materials and techniques. Such " informed consent" reduces misunderstanding and potential legal activity. Legal Counsel advises dentists to have patients sign informed consent indicating they have been informed about: **a.** alternatives for care; **b.** advantages; **c.** disadvantages; **d.** risks; **e.** costs; and **f.** result of not performing any treatment. Above book by Christensen addresses different treatments using this form.

4. **CRA CONCLUSIONS**:

Increasing numbers of patients have legitimate or supposed reasons to avoid silver amalgam, and today various alternatives are available for their treatment needs. Legally patients need to be made aware of alternatives. Professionally, dentists need to become proficient in all treatment alternatives so they can be offered to patients. Most popular alternatives in 1995 are direct and indirect resins. Current trend indicates significantly less use of silver amalgam world wide. If trend persists, silver amalgam will not be major restorative material in future.

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