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Vol: 05. Issue: 05. February 2019

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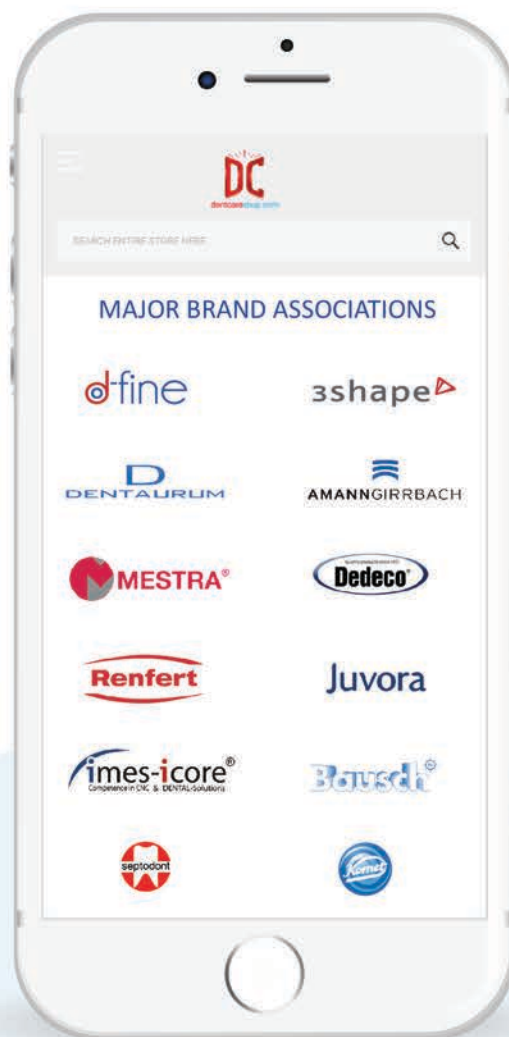
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*Dear Reader,*

Feb is Fab!!

The Dentcare gives me enough reason to believe so.

Reasons for giving belief that serious introspection is called for, especially when we are being tamed by the growing menace of Cancer.

The task may appear daunting. Nevertheless, every mountain seems less imposing from the top. And that is precisely, where we need to be. On the top of it!!

CAN we??

Certainly Yes!! ChANge being the Mantra.

Adding Fresh perspective, transforming current trends in Life Style, enthusing Moral values in Society through Public Awareness could be the wonderful keys to witnessing Change.

Personal Screening and Early intervention would further aid in scaling this peak, without doubt.

The Elderly too deserve serious attention. Oral health and Nutrition are brothers in arms in this context. The world needs to gear up to address their cause as well.

Achieving the feat calls for moments of Soul Searching to unearth the magic residing inside all of us.

Fabulous is what you will have as an answer to its eventual outcome.

Yours truly,

**Prof. (Dr.) George P. John**

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**CAUTION:** When viewing the techniques / procedures, theories and materials that are presented, you must make your own decisions about specific treatment for patients and exercise personal professional judgment regarding the need for further clinical testing or education and your own clinical expertise before trying to implement new procedures.

Printed and published by Mr. John Kuriakose on behalf of DentCare Dental Lab Pvt. Ltd. and printed at Fivestar offset Printers, Nettoor, Cochin - 40 and published at DentCare Dental Lab Pvt. Ltd., Nas Road, 130 Junction, Muvattupuzha, Ernakulam, Kerala, India - 686661. Edited by Prof. (Dr.) George P. John.



# CONTENTS

February Issue

## INSIDE THE DENTCARE

08 | Prevention is Better than Cure

12 | Biopsy: A Brief Overview

16 | Hepatitis B and C Viral Infections: Management in Dental Practice

20 | Oral Dermoid Cyst: An Unusual Case

22 | Health Benefits of Bananas

24 | Dentistry and Technology

26 | Silver Diammine Fluoride

30 | Nutrition and Oral Health in the Elderly

34 | Child Psychology

38 | A Trailblazer in Oncology

08



34



42



42 | A Cosmetically Pleasing and Invisible Orthodontic Solution

46 | Thyroid Surgery: A Novel Procedure

48 | Osteoarthritis: An Overview



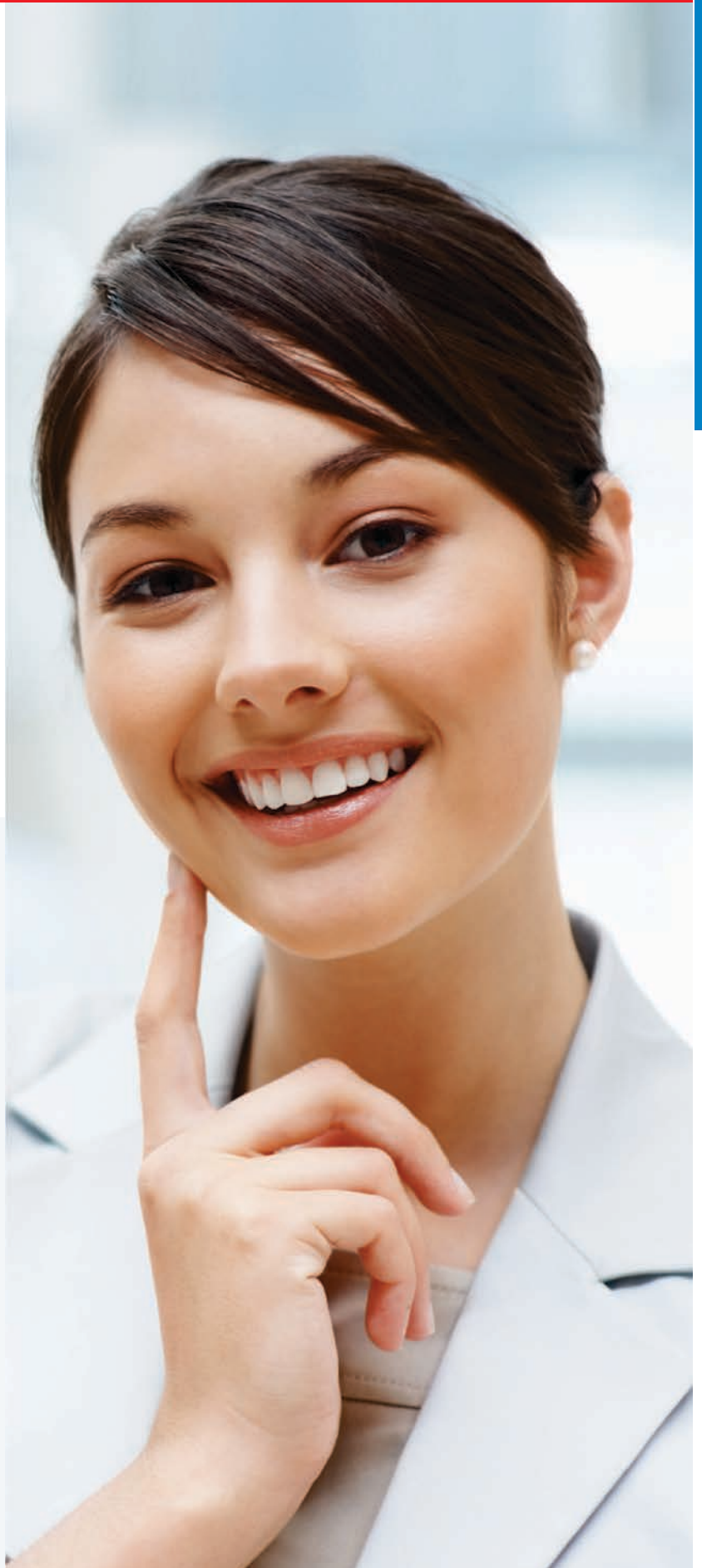
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# The Magic is inside you



FROM MD'S DESK

**G**od has created man with indefinable talent, wisdom and prowess. What makes man unique is that he is exceptionally gifted with reasoning skills. But there are only a few who actually realize and utilize these inborn traits effectively. It is said that Albert Einstein, the world famous German Physicist, could make use of only 10% of his brain.

Many people, without setting healthy boundaries, often think that they are not worthy of anything. In fact, they are all talented people with under- or untapped potential. It is unfortunate that even in this modern era, a vast majority of people are living with underutilized talents. I shall substantiate this with the help of a charming tale of a Rabbit and a Porcupine.

The Rabbit and Porcupine were bosom friends and one day they set out for a jolly trip. The Rabbit took a stick which he had found on the way. "Why did you take this stick?" the Porcupine asked. "Let it be there; it may be useful at times," replied the Rabbit. On the way they had to cross a trench; the Rabbit placed the stick across the ditch and both of them were able to cross the channel.

After a few hours of journey, they saw a rose apple tree. Using the stick they plucked some fruits and satiated their hunger. As they went forward, they saw a wide expanse, luxuriously overgrown with sweet potato vines. They dug out some potatoes with the stick and helped themselves.

After some respite, they carried on with their

---

## Mr. John Kuriakose

Managing Director  
DentCare Dental Lab Pvt. Ltd.

adventure. On the way, they had to pass along a plateau overgrown with creeping plants. Using the stick, they cleared the path and made their way. The Porcupine said to himself, "I cannot help but saying that this stick is an absolute Magic Wand!!!"

After the journey, when it was time to depart to their burrows, the Porcupine earnestly pleaded, "Dear friend, would you hand me this Magic Wand?" Without further thought, the Rabbit dispensed off the stick.

The Porcupine was surprised beyond words! He asked astonishingly, "Why did you give away this invaluable wand like trash?"

"You half-wit, this stick has no magical powers; it is not worth anything. When I used this stick cleverly on each occasion, it became very efficacious," remarked the Rabbit.

The stick in this fable does not possess any magical powers; it seemed to have extraordinary powers when it was used productively as the occasion demanded. Equally, almost all of us have great potential, which are either undetected or underutilized. We should identify and make use of this potential fruitfully.

A number of people have set unhealthy boundaries and lament that they are good-for-nothing. Everyone should come out of their shell and bend over backwards to identify and revive their dormant talents for their own and their families' betterment.

It is high time that we came out of our cocoon and used all our strength to rise to the occasion so that we could step into the path of greatness.

**May God Bestow All His Blessings upon You! ©**





# Prevention is Better than Cure

Visiting a dentist even when you do not have a problem is as important as getting a full body checkup done despite being in good health

**T**he tooth is one of the most important, yet among the most neglected of all the structures in the human body.

Imagine a situation where you are not able to chew efficiently. Let us not look at cracking a walnut or peeling and tearing-off sugarcane with your teeth. Consider you are not able to bite into or chew a banana. Without teeth, one would only be able to mash the banana with one's gums. Edentulous individuals are restricted to consuming soft or mashed foods alone, as the loss of teeth restricts their chewing ability.

Healthy teeth help people relish a variety of foods whether they are sticky, hard, soft, crispy, or difficult to chew. Besides chewing, teeth also play a significant role in speech articulation. Without teeth, a person's speech could become muffled or extremely airy. Pronouncing words can become really challenging for people who are completely edentulous.



**Dr. Eric Mario Shailander A.**  
Consultant Periodontist  
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An important issue that causes significant psychological distress in both adolescents and adults alike is the change in the facial appearance due to the loss of more number of teeth, especially in the anterior region. The dentition plays an important role in defining the features of the face and hence, it plays a crucial role in a person's facial appearance.

The fullness and vertical dimension along the lower third of the face can change significantly if more teeth are lost. Such individuals avoid situations that force them to speak / laugh in public or they may become very conscious of their deformed appearance.



The mouth houses a very complex ecosystem of various species of organisms. Some of these species are very useful while others are harmful. In healthy individuals, there exists a balance between beneficial and harmful microorganisms in the mouth. Diseases occur when there is an imbalance of this equation or when harmful species of microbes find a favorable environment to grow beyond their proportional limit. This happens when there is an increase in the factors that help nurture, nourish, and promote the growth of harmful organisms.

The most common diseases occurring in the oral cavity are Dental Caries and Periodontitis. Both these diseases are caused by specific groups of organisms which are present in fewer numbers when a person is healthy but increase exponentially when he is in a morbid state. Each of these groups of organisms requires specific nutrients and Pouvour Hydrogene (pH) of the oral environment.

Dental Caries occur when bacteria feed on the food particles that are stuck in the tooth crevices. The bacteria produce acids that demineralize the tooth surface. A high sugar diet usually increases the incidence of Caries. Food particles sticking to the tooth

crevices / surfaces become foci where cariogenic bacteria colonize.

The demineralized area of the tooth becomes less resistant to the dynamic oral cavity. Over a period of time, more and more bacteria increasingly colonize these demineralized niches and as a result, the cavities increase in size.

In the initial stage, Caries can be treated by simple restorations; however, if left unattended to, it may eventually require more aggressive and extensive treatment like endodontic intervention, ultimately necessitating tooth extraction.

Periodontal disease affects the gums and the supporting structures of the teeth by destroying the tissues that hold the teeth in place. This causes the teeth to become mobile and eventually fall out of the socket. Periodontal disease usually begins with bacteria colonizing the teeth at the margins of the gums, near the neck of the teeth.

Dental plaque, which is formed by colonies of bacteria, is resistant to antimicrobial agents and mechanical brushing. As plaque builds up, more acids are produced that destroy the host tissues. Management of Periodontal disease usually requires surgical intervention. Teeth with poor prognosis are usually considered for extraction.

The chances of progression of both Dental Caries and Periodontal diseases can be significantly slowed down or arrested if the patient goes for appropriate





intervention as soon as it occurs. There is always a good chance of relapse when the oral care regimen is not properly maintained. If left unattended to, these diseases will eventually end up in tooth loss.

Do you know that both these diseases are preventable? Both of them occur when microorganisms colonize the tooth crevices / surfaces. Preventing them from doing so is the key to preventing the occurrence of these diseases.

Most people consider visiting a dentist only when they feel something is wrong with their teeth. Visiting a dentist even when you do not have a problem is as important as getting a full body checkup done despite being in good health. It not only helps you diagnose potential threats early but also helps you stay healthy for long. Regular dental visits help you assess and determine the type of maintenance regimen required for you.

The oral maintenance program for each individual is customized. Every aspect right from the selection of toothbrush and paste to the technique of brushing to be followed will vary from individual to individual. This can go a long way in keeping the teeth in good health for a prolonged period.

Sometimes prophylactic / preventive measures can be carried out during regular dental visits. Deep fissures / grooves on the occlusal surfaces of the teeth can be filled with sealants so that food will not get wedged into the crevices, thus making it difficult to clean. It is seen that fluoride application significantly helps reduce the incidence of Dental Caries in children.

Biannual prophylactic scaling and polishing will be helpful

Every aspect right from the selection of toothbrush and paste to the technique of brushing to be followed will vary from individual to individual. This can go a long way in keeping the teeth in good health for a prolonged period

in removing the accumulated calculus and plaque from the tooth crevices / surfaces. This will help prevent the occurrence of Gingivitis and Periodontitis. Adjunctive to clinical prophylaxis, proper brushing and flossing techniques and regular use of mouthwashes, along with other dental and interdental aids are imperative to prevent dental diseases from occurring.

It takes a conscious effort on the part of everyone to make this a regular / habitual practice. It is the responsibility of the parents or guardians to inculcate good oral hygiene practices in children. This can be possible only if the parents or guardians practice these habits themselves.

Remember, Prevention is better than Cure! This applies to people of all age groups. ©





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# BIOPSY:

## A BRIEF OVERVIEW

**A** Biopsy is a procedure that involves the removal of tissues from a living organism for microscopic examination / chemical analysis or a combination of both to rule out the presence of / diagnose a medical condition or progression of a disease whereas an Autopsy involves removal of tissues from a dead organism to find out the cause of death.

Prior to a Biopsy, an adequate history of patient, along with thorough examination / inspection and palpation of the lesion are very essential. A clinical impression can be formed based on a biopsy procedure / laboratory examination.



**Prof. (Dr.) Muralee Krishnan M.**  
Consultant Oral and Maxillofacial  
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## Indications for Biopsy

1. Any lesion persisting for more than two weeks with no apparent reasons
2. Any inflammatory lesion not responding to local treatment after 10 to 14 days, following the removal of an irritant
3. Persistent hyperkeratotic changes in the surface tissue
4. Any visible / palpable, persistent tumor beneath the surface of relatively normal tissue
5. Inflammatory changes of unknown cause persisting for a long time
6. Lesions like Fibroma that interferes with local functions
7. Bone lesions identified by clinical and radiographic examinations
8. Any lesion that has the characteristics of a malignancy

## Characteristics of Lesions suspicious of Malignancies

1. Erythroplakia – lesions that are totally red or have a speckled red or white appearance
2. Ulceration – a lesion that is ulcerated
3. Duration – a lesion that persists for more than two weeks
4. Growth rate – a lesion that exhibits rapid growth
5. Bleeding – a lesion that bleeds on gentle manipulation
6. Induration – a lesion and its surrounding tissue become hard
7. Fixation – a lesion that feels attached to the adjacent structures

## Types of Biopsies

### 1. Oral Cytology

Cytologic examination of tumor cells was first used as a diagnostic procedure of cervical malignancy. In the oral cavity, it is used as an adjunct to and not as a substitute for other biopsies. Cytology allows examination of individual cells but it cannot provide histologic architecture that helps ensure an accurate diagnosis.

#### Indication

It is indicated when large areas of mucosal changes have to be monitored for dysplastic changes, such as postradiation changes, Herpes, Pemphigus etc.

#### Technique

The lesion is scraped repeatedly and firmly with a moistened tongue depressor / cement spatula. The cells are immediately smeared on a glass slide, fixed, stained and studied under a microscope.

### 2. Aspiration Biopsy

A needle attached to a syringe is introduced into a lesion for aspirating its contents.

#### Indication

It is indicated for intraosseous lesions or lesions that contain fluid. Materials obtained by aspiration biopsy

are sent to a pathology laboratory for examination, chemical analysis, or microbiologic culturing.

- **Fine Needle Aspiration Biopsy**

A 20 milliliters (ml) syringe with 20-gauge needle is inserted into a tumor to get samples. The tissue is then expelled on a clean slide, smeared, stained, and examined for a diagnosis.

### 3. Punch Biopsy

A punch biopsy is a procedure to acquire a small piece of tissue from a body for a laboratory examination, usually through tissue culture or microscopy.

#### Indication

It is indicated for mucosal lesions from inaccessible regions that cannot be reached by conventional methods.

### 4. Incisional Biopsy

It is a medical procedure to remove a representative portion of a lesion for examination.

#### Indication

It is indicated when the area under investigation appears to be hazardous or difficult to excise because of its extensive size (larger than 1 – 2 centimeters).



A deep narrow biopsy is better than a broad shallow one because the superficial changes may be quite different from those in the deeper tissues.

## 5. Excisional Biopsy

It is a procedure to remove the entire lesion by circumscribing it in such a way that it is totally excised.

### Indication

It is indicated for smaller lesions that are clinically benign or for small vascular / pigmented lesions.

### Principle

The entire lesion along with 2 to 3 mm of normal-appearing tissue is excised.

## 6. Touch Preparation

In case of suspected Lymphoma, touch preparation of a cut surface of an excised lymph node is made by pressing it against a clean microscopic slide and immediately fixing the cells adherent to the slide with 95% alcohol.

## 7. Frozen Section

A small fragment of an excised tissue is quickly frozen by placing it in a small glass / plastic vial and immersing the vial in acetone / alcohol and dry ice.

## Biopsy Data Sheet

The patient's name, age, sex; chief complaint; history

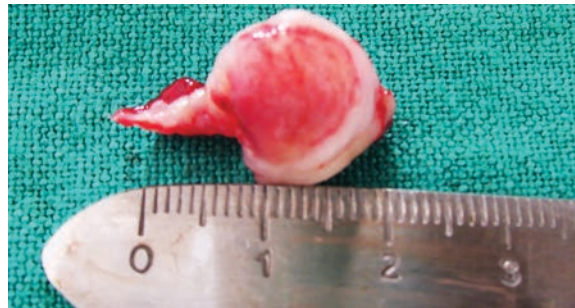


of any deleterious oral habits; clinical, radiological and surgical findings; provisional diagnosis; type of biopsy, and date of procedure, along with the doctor's name are recorded in a biopsy data sheet.

If the histopathology report does not correlate the clinical impression of the lesion, the biopsy procedure needs to be repeated.



**Fibroma before Excisional Biopsy**



**Fibroma after Excision**

## Conclusion

A biopsy, whether it is a needle, open, or closed one, is generally a less invasive and almost painless procedure. A biopsy may become necessary if the imaging techniques like Ultrasound Scan, Computed Tomography (CT), or Magnetic Resonance Imaging (MRI) cannot clearly define an abnormality. This procedure may be done to match an organ tissue before a transplant and to look for signs of organ rejection following a transplant. ®

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## Hepatitis B and C Viral Infections: Management in Dental Practice

**D**entistry is a profession where healthcare providers have to come into contact with the secretions and blood of the patients while performing various procedures. Likewise, if the tools for invasive treatments are not sterilized / autoclaved, they may transmit the infection to the patients.

Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) infections are a serious public health issue that may have psychological and occupational implications. Patients with these infections are often stigmatized in India.

The incidence of HBV and HCV infections among Healthcare workers is reported from time to time and the rate ranges from 1.4 % to 14%. A cross-sectional study conducted in Japan revealed that the risk of exposure



to infectious diseases to dental practitioners was the highest among all healthcare providers. The sharp instruments / gadgetry and continuous exposure to salivary secretions as well as blood probably put them to more risk.

Let us look into the clinical presentations of the Viruses and preventive strategies to be adopted to address the infections.

## The Viruses

HBV is a Deoxyribonucleic Acid (DNA) Virus that consists of a circular double-stranded DNA and DNA Polymerase, which aid in replication. The DNA is enveloped with a Core Antigen which in turn is enveloped with a Hepatitis B Surface Antigen (HBsAg). The Surface Antigen is the diagnostic modality employed to know whether a patient is presently infected or not.

Antibody to Hepatitis B Surface Antigen is used to confirm the immune status of an individual against the Virus. Antibody to the Core Antigen is helpful in assessing the acute or chronic nature of the illness.

HCV is a Ribonucleic Acid (RNA) Virus. This Virus has subgroups due to the differential nature of the Antigens it possesses. Anti-HCV Antibody is the test commonly employed for detecting the infection.

## Routes of Transmission

Blood transfusion, pricks from contaminated instruments, mucosal exposure of contaminated secretions and fluids, sexual contact, Dialysis, and intravenous drug use are all the routes of transmission. Mother to child transmission can occur during delivery. Vector transmission in humans is still to be proven.

## Clinical Presentations

### Asymptomatic Carriers

An Asymptomatic Carrier is a person / organism that has become infected with a pathogen but who does not display any signs or symptoms. In dental practice, these carriers become very dangerous if proper hygiene measures are not routinely practiced.

### Acute Hepatitis

Patients with Acute Hepatitis will manifest symptoms of Fever, Jaundice, Malaise etc. It is usually detected with blood tests.

### Chronic Hepatitis

Patients with Chronic Hepatitis are often asymptomatic but may have nonspecific symptoms of weakness, fatigue, intermittent nausea, and abdominal discomfort. Liver Function Tests are helpful in showing derangements in liver function only. Hence Antibody / DNA Quantification Tests or further analysis with Core Antigen will become necessary to ascertain the condition.



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Head and Consultant  
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## Cirrhosis of the Liver

Cirrhosis of the Liver occurs as a silent illness in patients with HBV and HCV infections. It happens over a period of 15 to 20 years in those patients who have not eliminated the Viruses from their body. The liver undergoes fibrotic changes and the functional derangement may be unmasked during dental procedures. Bleeding of the gums from a minor trauma is often a clinical manifestation. The patients with this condition have a prolonged clotting time and low Platelet Count, which contribute to postoperative bleeding.

## Liver Cancer (Hepatocellular Carcinoma)

The DNA and RNA of these Viruses get integrated over a period of time to the DNA of humans, which results in the formation of Oncogenes, a gene having the potential to cause Cancer.

## Presence of Virus in the Oral Cavity

Saliva, nasopharyngeal mucoid secretions, and blood are all vectors. Gingival sulcus has high concentrations of the Virus. Bad oral hygiene, Salivary Adenitis, and Periodontal Disease are all contributing risk factors.

## Oral Manifestations associated with the Virus

Sjogren's Syndrome, Lichen Planus, and Petechiae can promote the risk of developing HCV infection.



Acute / Chronic HCV infection is associated with Autoimmune Manifestations and Diabetes. This Virus increases the risk of Periodontal Diseases and Stomatitis, besides Fungal Infections like Candidiasis, Leukoplakia, and Dental Caries.

### Universal Precautions

Dental surgical instruments are prone to contamination. The surgeon himself should use Personal Protective Equipment (PPE) like double gloves, goggles, mask, and apron. Toxic liquids should be poured carefully from the container so as to avoid splashing and spurting.

### Pre-procedure Tests

Liver Function Test (LFT Test), Hepatitis B Surface Antigen (HBsAg) Test, Anti-HCV Antibody, Prothrombin Time, and Platelet Counts are the tests commonly done before a procedure. If a diagnostic examination of a patient (workup) is not possible in the unit, referral to an adjacent Gastroenterology or Hepatology center would be ideal. The patient has to be briefed about the possibility of postoperative bleeding and an 'informed consent' needs to be obtained to avoid future litigation.

### What should a Surgeon do if there is an Exposure?

Exposure occurs as a result of a splash of blood, salivary secretions, injuries from needle sticks, sharp / ragged edges of teeth or drills, and so forth.

Once exposure occurs from a known source, wash the exposed area well with soap water and disinfectant. If the dental surgeon is not vaccinated against HBV and his immune status is unknown, administration of Hepatitis B Immunoglobulin (HBIG) within 72 hours of an exposure is necessary.

Along with this, Vaccination should also be started. As an HBV vaccination carries 3 doses extending over a period of 3 – 6 months, the immune status attained

by the vaccination will have to be assessed by testing Anti-HBs levels and HBsAg status, once the vaccination is complete.

Since there is no vaccination for HCV, once an exposure occurs, Anti HCV Antibody and LFT Test should be done to ascertain the status of the person.

### Need for a Referral

The viral load and functional status of a patient have to be ascertained to avoid operative catastrophes. If a patient shows viral status or there is a possibility, a thorough evaluation should be insisted on prior to a procedure. At this juncture, it is better to postpone Elective procedures.

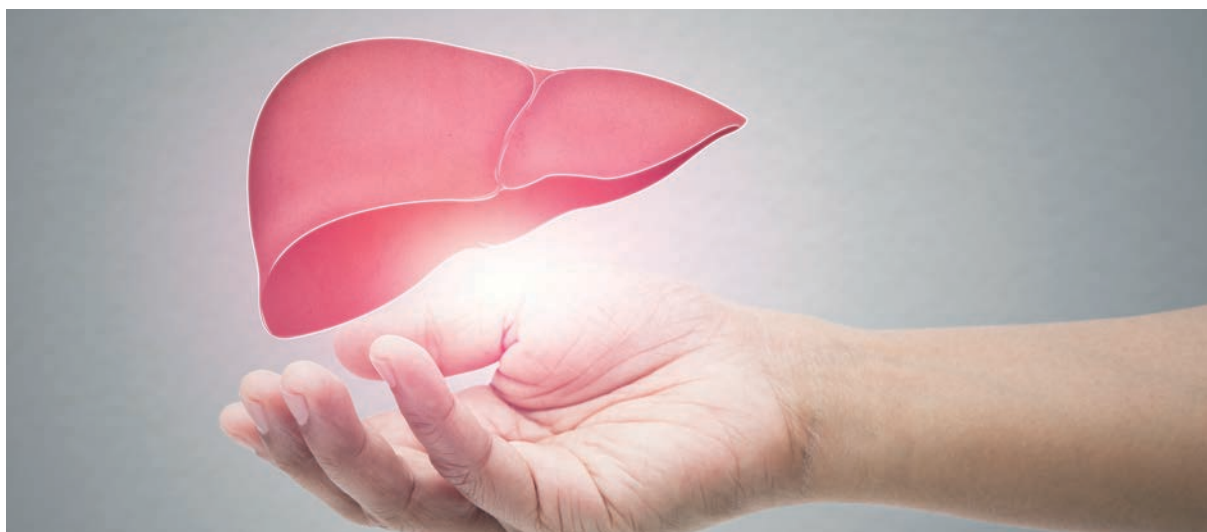
### Caution about Drugs

Drugs like Macrolides (Azithromycin, Erythromycin, and Clarithromycin), Aminoglycosides (Gentamicin and Amikacin), and Non-Steroidal Anti-inflammatory Drugs (NSAIDs) like Aspirin, Ibuprofen, Diclofenac etc. should be avoided. It is better to administer Penicillin and Quinolones like Ciprofloxacin, Ofloxacin, and Tramadol.

In case of severe bleeding, Adrenaline Packs are safe for patients with good Cardiac status. If bleeding is refractory to the Packs, Fresh Frozen Plasma, Vitamin K, Tranexamic Acid, or Platelets have to be administered.

### Conclusion

In this era of aggressive intervention and ever-evolving gadgetry, it is advisable to exercise necessary precautions to prevent HBV and HCV from getting transmitted. When once infected, the stigma of the individual in terms of social, financial, and medical/health aspects is profound. The family members of the individual should be advised to get vaccinated as well. Since HBV and HCV infections affect families and societies alike, there should be a constant vigil to keep these infections at bay. ©





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CATEGORIES	Special offer up to 31 <sup>st</sup> Jan. 2019	After 31 <sup>st</sup> Jan. 2019
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# Oral Dermoid Cyst

## An Unusual Case



**D**ermoid Cysts are developmental cysts lined by the epidermis, which contain dermal structures, such as sebaceous glands, hair follicles, or sweat glands. When found in the oral cavity, Dermoid Cysts are classified as Non-odontogenic lesions.

About 7% of these cysts occur in the head / neck; out of these, 23% are located on the floor of the mouth.

These cysts can be found either lateral to the tongue or in the midline.

### Case Report

A 14-year old female presented to the Department of Dentistry, All India Institute of Medical Sciences (AIIMS), Patna, Bihar, India with Dysphagia (difficulty



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in swallowing). Clinically, there was a midline swelling of 6 x 4.5 centimeters (cm) on the floor of the mouth, showing soft consistency and smooth surface. There were no inflammatory changes on the oral mucosa or cervical lymphadenopathy.

On Ultrasonography, a cystic swelling with fine internal echoes was noted; there was no vascularity within it. After making a provisional diagnosis of a plunging ranula, plain and contrast Magnetic Resonance Imaging (MRI) of the oral cavity and neck was performed.

Tissue was characterized by two different Relaxation Times – T1 (Longitudinal Relaxation Time) and T2 (Transverse Relaxation Time).

The most common MRI sequences were T1-weighted and T2-weighted scans. T1-weighted images were produced using short Echo Time (TE), i.e., the time between the delivery of the Radio Frequency pulse

and the receipt of the echo signal, and Repetition Time (TR), i.e., amount of time between successive pulse sequences. T2-weighted images were produced using longer TE and TR times.

The unilocular lesion, which exhibited low signal intensity on T1-weighted scans and hyperintense on T2-weighted images, was helpful in demonstrating the pathology. No enhancement was seen on post-contrast MRI. The lesion was deep into the Mylohyoid muscle and the tongue was displaced superiorly and backward.

## Differential Diagnosis

- Mucocele
- Ranula
- Cystic hygroma
- Branchial cleft cyst
- Lymphatic malformation
- Abscess
- Hemangioma
- Salivary lesions
- Ludwig's Angina

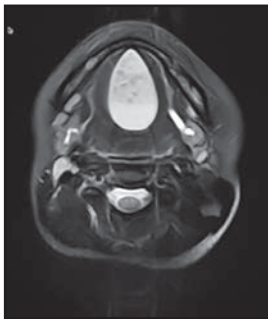
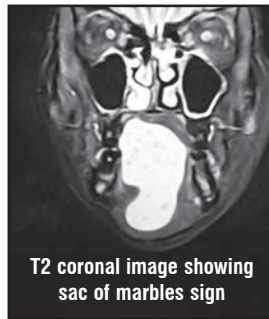


Fig. A



T2 coronal image showing sac of marbles sign

Fig. B



Fig. C



No enhancement on post-contrast T1 image

Fig. D

**Fig. A.** (Axial) and **Fig. B.** (Coronal) images showing cystic lesion on the floor of the mouth with T2 hypointense (MRI signal of the corpuscles which indicates sac of marbles sign) inside the midline cyst

**Fig. C.** Sagittal fat-suppressed images showing the extent of the lesion

**Fig. D.** T1 post-contrast image showing no enhancement within the lesion

## Conclusion

Surgical removal (enucleation) of the swelling was the treatment of choice and hence, it was performed in this case (intra oral approach). Histopathology helped confirm the diagnosis made for the patient. The surgery was successful and the patient was completely cured of the Oral Dermoid Cyst. ©

# Health Benefits of **BANANAS**

---



**E**njoy banana fruits; nature's nutrient-rich food that comes in a safety envelope!

Fresh, creamy, and delicious bananas are one of the cheapest and readily available fruits all year round. There are dozens of reasons for incorporating all varieties of this fruit into your daily diet.

## Health Benefits

- ⊙ One of the high-calorie tropical fruits. 100 grams of its flesh carries about 90 calories. It also contains a good amount of health benefiting Fibers, Antioxidants, Vitamins, Minerals, and Trace Elements.
- ⊙ Contains three different types of sugar: glucose, fructose, and sucrose. Glucose and fructose are quickly absorbed into the bloodstream and provide an immediate energy boost while sucrose is absorbed slowly and hence, this helps keep blood sugar levels stable. Thus bananas are a perfect snack before, during, or after physical exercise. It is also one of the recommended supplement foods included in the treatment plan for undernourished children.
- ⊙ Helps improve gut health and promote healthy digestion. This fruit contains two types of Fibers, Pectin and Resistant Starch, which are found in unripe bananas. Both Pectin and Resistant Starch may escape digestion and end up in your large intestine, where they become food for beneficial bacteria in your gut. Bananas are easy to digest food and thus an excellent choice for an upset stomach.
- ⊙ Carries a very high amount of Fructooligosaccharide, a prebiotic compound that helps probiotic bacteria to produce Digestive Enzymes and Vitamins. These Vitamins and Digestive Enzymes promote your body's ability to absorb Nutrients, especially Calcium, which is one of the most important minerals linked to healthy bones.
- ⊙ Provides adequate levels of minerals like Potassium, Copper, Magnesium, and Manganese.
- ⊙ Rich in health-promoting Flavonoid Polyphenolic Antioxidants, such as Lutein, Zeaxanthin, and Alpha- and Beta-carotenes in small amounts. Together these compounds act as a protective scavenger against Oxygen free radicals that play a role in aging and various disease processes.
- ⊙ Good source of Vitamin B6 (Pyridoxine) that helps reduce the symptoms associated with Rheumatoid Arthritis. Further, it helps decrease Homocysteine (an Amino acid in the blood), which is one of the risk factors for Coronary Heart Disease





**Ms. Soly James**  
Consultant Nutritionist  
Kochi, Kerala, India

(CHD) and Stroke. Vitamin B6 is also essential for the formation of new cells in your body.

- ⊙ Ideal source of Vitamin C that helps protect your body from the damage caused by Oxygen free radicals. It helps boost your immune system and healing process, besides helping your body develop resistance against infectious agents and scavenge harmful Oxygen free radicals known to cause various diseases, including Cancer. This is also essential for strengthening muscles, tendons, and ligaments.
- ⊙ Recommended for pregnant women. It is rich

in Folic acid that helps make extra blood needed in the body during pregnancy. Being rich in Iron, this fruit helps prevent Anemia. The fiber content in this fruit helps combat constipation and is helpful in dealing with Morning Sickness. When eaten between meals, this fruit helps regulate blood sugar levels and helps your body process salt out quickly, decreasing the chances of salt-induced side effects.

- ⊙ Chock-full of Nutrients like Potassium, Magnesium, and Vitamin B and C that also help maintain strong bones.
- ⊙ Contains Tryptophan, an Amino acid that plays a role in preserving memory and boosting your mood as well as mental health.

Bananas come with nature gifted protective outer layer of skin and hence, they are less likely to be contaminated by germs and dust. You can make various delicious dishes with ripe bananas like fruit salads, banana milkshake, fruit jams, smoothies, banana cakes, muffins, banana pudding, etc.

## Banana Pudding



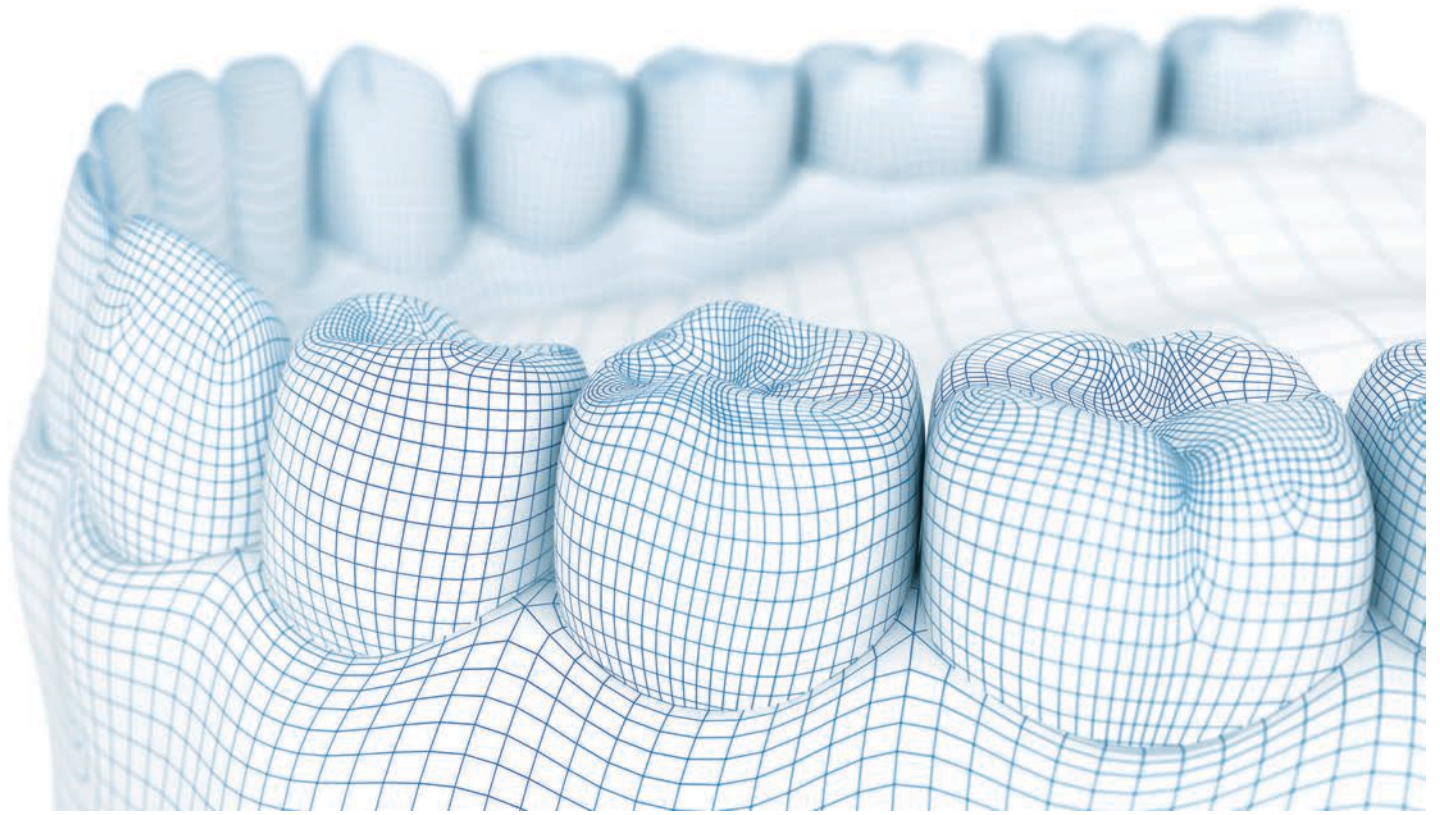
### Ingredients

Bananas (ripe)	8 numbers, cut into ¼ inch thick slices
Cookies/Biscuits	40 / 50 numbers
Milk	2 cups
Yolk	5 numbers
Sugar (powdered)	½ cup

Cornstarch/Pudding Mixture	¼ cup
Butter	1 tablespoon
Vanilla Essence	1½ teaspoons
Salt	a pinch

### Preparation

- ⊙ Heat Milk in a large saucepan and add Vanilla Essence. Then keep it aside.
- ⊙ Whisk Yolks, Cornstarch, Salt, and Sugar in a bowl. Pour this mixture into warm Milk and whisk continuously without forming lumps. Bring to a gentle boil; whisk continuously until mixture becomes thick. Reduce heat to simmer and continue stirring for two more minutes.
- ⊙ Pour this mixture into a bowl; add Butter and stir continuously. Cover pudding mixture with a plastic wrap. Press plastic wrap right on the top surface of pudding mixture. Refrigerate this for at least five hours or keep it overnight.
- ⊙ Make one layer of Cookies / Biscuits in a big glass bowl or square tray and evenly strew half of the Banana slices over it and add half of the pudding. Repeat layers.
- ⊙ Just before serving, crush remaining Wafers and sprinkle over top. Serve cold. ☺



# Dentistry and Technology

**D**ental professionals, over the past few decades, have witnessed how their profession has undergone a rapid transition from the traditional to the digital. From chairside to the laboratory or from design to manufacturing, digital tools have paved the way for making a huge impact on all aspects of dentistry.

Technology has transformed the mode of communication, helping enhance standards of care with less hassle and better well-being for the patient. In today's fast-paced world, it is critical to value the patient's time. When we require patients to show up on time for their appointments, we, as service providers, should respect their valuable time.

Digital technology allows us to promptly keep the scheduled appointments. Whether it is a digital X-ray for detecting a root canal immediately without having to wait for developing an X-ray film or a crown which you can deliver through same-day dentistry, digital technology helps us enhance the efficiency of patient care.

## CAD / CAM

With the help of Computer-aided Design (CAD) and Computer-aided Manufacturing (CAM), dentists are now able to practice same day dentistry and efficient time management, which in turn paves the way for the high level of patient satisfaction. CAD / CAM technology allows dentists to scan their patients' teeth and create prostheses while they stay in the waiting room. This process, which traditionally needed weeks to complete the process, can now be achieved in a few hours.

Patients are most often busy in their own ways and hence, multiple appointments at the dental clinic can be a major inconvenience for them. A well-equipped dentist can work with a variety of technologies starting from Intraoral Scanners to Cone Beam Computed Tomography (CBCT) to scan the patients' teeth directly. Once a digitized scan is obtained, it can be sent to an on-site 3D printing machine to print it from resin or even carve it out from a block of Porcelain while the patient relaxes in the waiting area. Once the



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process is complete, the crown is ready for fixing and in no time the patient can go home satisfactorily. These kind of procedures are definitely appealing to the patients – a single visit to the dental clinic without the trouble of using a temporary crown that helps them gain both in terms of time and money.

### **Cone Beam Computed Tomography (CBCT)**

Traditional radiographic techniques are not efficient in planning implant placement, as they only provide two-dimensional views and might miss out critical information. Cone Beam Computed Tomography is an indispensable tool that must be used in implant dentistry to provide effective treatment planning and post-procedure monitoring.

CBCT provides high-resolution 3D images of the patient's anatomy from a single low radiation scan, which helps deliver a comprehensive understanding of the patient's jaws and other anatomical structures essential to render treatment accurately.

Without the aid of CBCT, dentists often have to

speculate on bone density or how deep an implant should be placed. Like CBCT, conventional CT scans and Panoramic Radiograph can also provide information about each implant site. CBCT provides images with less distortion and is more accurate in demonstrating bone height and width. This allows for exact measurement of jawbone thickness while defining the shape of the bone contours.

Without question, the use of CBCT was initially associated with treatment planning and delivery of dental implants. As technology became widely accepted among dentists, its application has dramatically rocketed. A clinician's ability to view three-dimensional images and share the clinical findings digitally has improved the scope for patient examination.

### **Digital X-Rays**

Digital radiography has far-reaching benefits ranging from better diagnosis to higher patient acceptance rates. Digital X-rays are a means by which dentists educate the patients about their problems. By displaying the images on a screen and showing the problems, patients are able to understand the cause of their problems by themselves. This will not only increase patient acceptance rates but will also help alleviate the anxiety that many patients tend to have while sitting on the dental chair. Digital radiographs also allow the dentists to show their patients the area and gravity of their problems.



**Digital radiography has far-reaching benefits ranging from better diagnosis to higher patient acceptance rates. Digital X-rays are a means by which dentists educate the patients about their problems**

### **Conclusion**

In today's fast-paced world, all dentists should welcome technology into their dental practice. It is a new approach to excellent patient care. Doctors should wholeheartedly embrace this ever-changing technology, as it helps them to become more efficient and effective, leading to a better result for their patients.®



# Silver Diammine Fluoride

The resurgence in the use of Silver Ion products in dentistry stems from the growing movement to shift the surgical management of Dental Caries to a noninvasive procedure



Silver Diammine Fluoride (SDF) is a topical medicament to manage Dental Caries and relieve Dentin Hypersensitivity. It helps arrest active Carious Lesions without local anesthetic as long as the teeth are asymptomatic and a patient avoids or delays conventional method of Caries removal. This medicament can be applied to the teeth as soon as Caries is detected.

SDF has received clearance from the United States Food and Drug Administration (FDA) as a Class II Medical Device, in August 2014. Its ability to block Dentin Tubules has allowed it to be classified as a medical device rather than a drug, paving the way for expedited approval. In October 2016, the FDA awarded 'Breakthrough Therapy Designation' to SDF in view of its ability to arrest Dental Decay in children and adults.

This compound,  $\text{AgF}(\text{NH}_3)_2$  is commonly misspelled or misinterpreted as Silver Diamine Fluoride, but in fact, the proper terminology is Silver Diammine Fluoride as it contains two Amine Groups ( $\text{NH}_3$ ). Silver Diammine Fluoride (SDF) has been used extensively in countries other than the United States of America for many years to treat Dental Caries and manage Dentin Hypersensitivity.

## Composition

SDF is a colorless liquid that contains Silver particles and 38% (44800 Parts per Million [ppm]) Fluoride Ion, which at Pouvoir Hydrogene (pH) 10 is 25% Silver, 8% Ammonia, 5% Fluoride, and 62% water. This is referred to as 38% SDF.

## Medical Management of Caries

The resurgence in the use of Silver Ion products in dentistry stems from the growing movement to shift the surgical management of Dental Caries to a non-invasive procedure.

In modern medicine, there exist three broad levels of healthcare: Primary, Secondary, and Tertiary care. For example, Primary care of patients with Noninsulin-dependent Diabetes Mellitus includes preventive measures like eating a healthy diet, maintaining healthy body weight, and regular exercise. Secondary care includes interventions with medications while Tertiary care involves advanced and complex procedures.



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#### **Acknowledgment**

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### **Indications**

- ✦ High Caries-risk patients with anterior or posterior active Cavitated Lesions
- ✦ Cavitated Carious Lesions in individuals presenting with Behavioral or Medical Management Challenges (mentally retarded individuals)
- ✦ Patients with multiple Cavitated Carious Lesions that may require multiple appointments
- ✦ Carious Lesions that are difficult to treat
- ✦ Patients with little access to dental care
- ✦ Active Cavitated Carious Lesions with no clinical signs of pulp involvement

### **Contraindications**

- ✦ Individuals who are allergic to Silver
- ✦ Teeth requiring Pulpal Therapy (i.e., Irreversible Pulpitis or Necrosis)

### **Application**

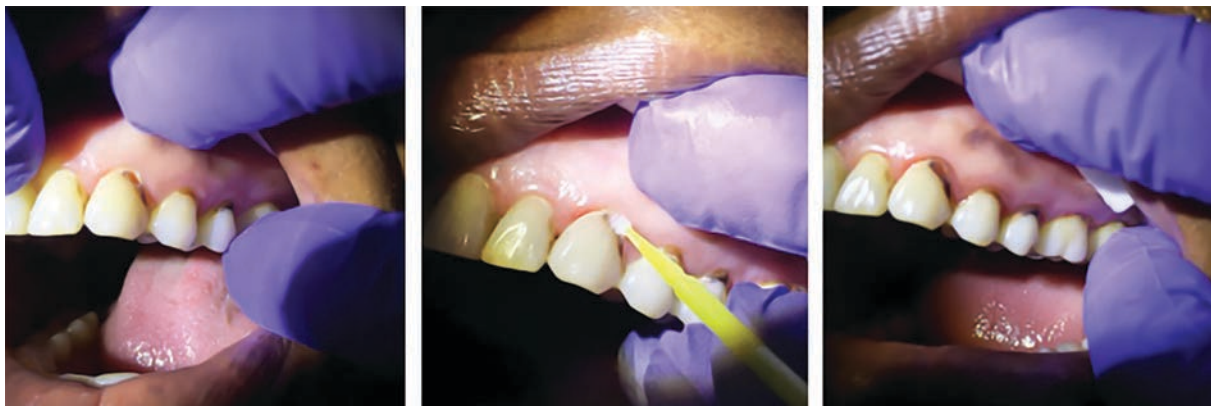
Prior to SDF application, Dentine Caries excavation is not necessary. As Dentine Caries excavation may help reduce the proportion of arrested Caries Lesions that become black, it may be considered for esthetic purposes.

### **How to apply**

- ✦ Remove gross debris from a Cavitation to allow better SDF contact with denatured dentine
- ✦ Minimize contact with gingival and mucous membranes so as to avoid potential pigmentation or irritation. It is better to apply Cocoa butter or use a cotton roll to prevent inadvertent coating on the surfaces of Caries Lesions or protect the surrounding gingival tissues
- ✦ Dry the affected tooth surfaces with a gentle flow of compressed air or using a cotton roll / gauze
- ✦ Dip a microsponge brush into SDF to remove excess liquid before application. Then apply SDF only to the affected tooth surface
- ✦ Remove excess SDF with a gauze or cotton roll / pellet to minimize systemic absorption. Continue to isolate the site for up to three minutes

### **Application Time**

In clinical studies, the application time of SDF ranged from 10 seconds to three minutes. The recommended time of manufacturers spans from 30 to 60 seconds. Current review states that the application time in clinical studies does not correlate with treatment outcome. More studies are needed to confirm an ideal protocol.



**SDF application for Tooth Decay**

## Post-operative Instructions

No post-operative restrictions are listed by the manufacturers of SDF. Eating and drinking immediately after its application is acceptable. Patients may be instructed to brush with Fluoride toothpaste following SDF application.

Clinical trials of SDF done so far have concluded that it is better to refrain from eating or drinking for 30 minutes to one hour. However, more clinical studies are needed to establish best practices.

## Adverse Reactions or Side effects

- ✦ Metallic / bitter taste
- ✦ Significant desquamative processes eg. Ulcerative Gingivitis or Stomatitis: Use of Petroleum Jelly will help address this problem
- ✦ Small White Mucosal Lesions; this will automatically disappear in 48 hours
- ✦ Temporary staining of skin
- ✦ Staining of Caries Lesions

## Advantages

- ✦ Carious Lesions can be arrested
- ✦ Caries is prevented from invading the pulp without subsequent pain and loss of its vitality
- ✦ SDF application can be delayed in uncooperative children with Early Childhood Caries until they are mature enough to cooperate with the procedure. But these children can be treated under General Anesthesia



**SDF helps arrest active Carious Lesions without local anesthetic as long as the teeth are asymptomatic and a patient avoids or delays conventional method of Caries removal**

## Adjunctive Treatments to SDF

1. Placement of Glass Ionomer Cement (GIC) over an SDF-treated Lesion using Silver Modified Atraumatic Restorative Technique (SMART).

But it is important that the placement should be done several hours or days after initial SDF placement, as Ammonia in the medicament can corrode the glass.

2. SDF can also be used in indirect pulp capping in deep Lesions, as it has shown remineralizing efficacy like GIC and Calcium Hydroxide [Ca(OH)<sub>2</sub>].

## Conclusion

The use of SDF in dentistry has been drawing more attention as a Caries-arresting agent. The meteoric rise in the popularity of this material in the United States of America (USA) is reflective of its acceptance as a safe, effective, efficient, and equitable Caries control agent.®

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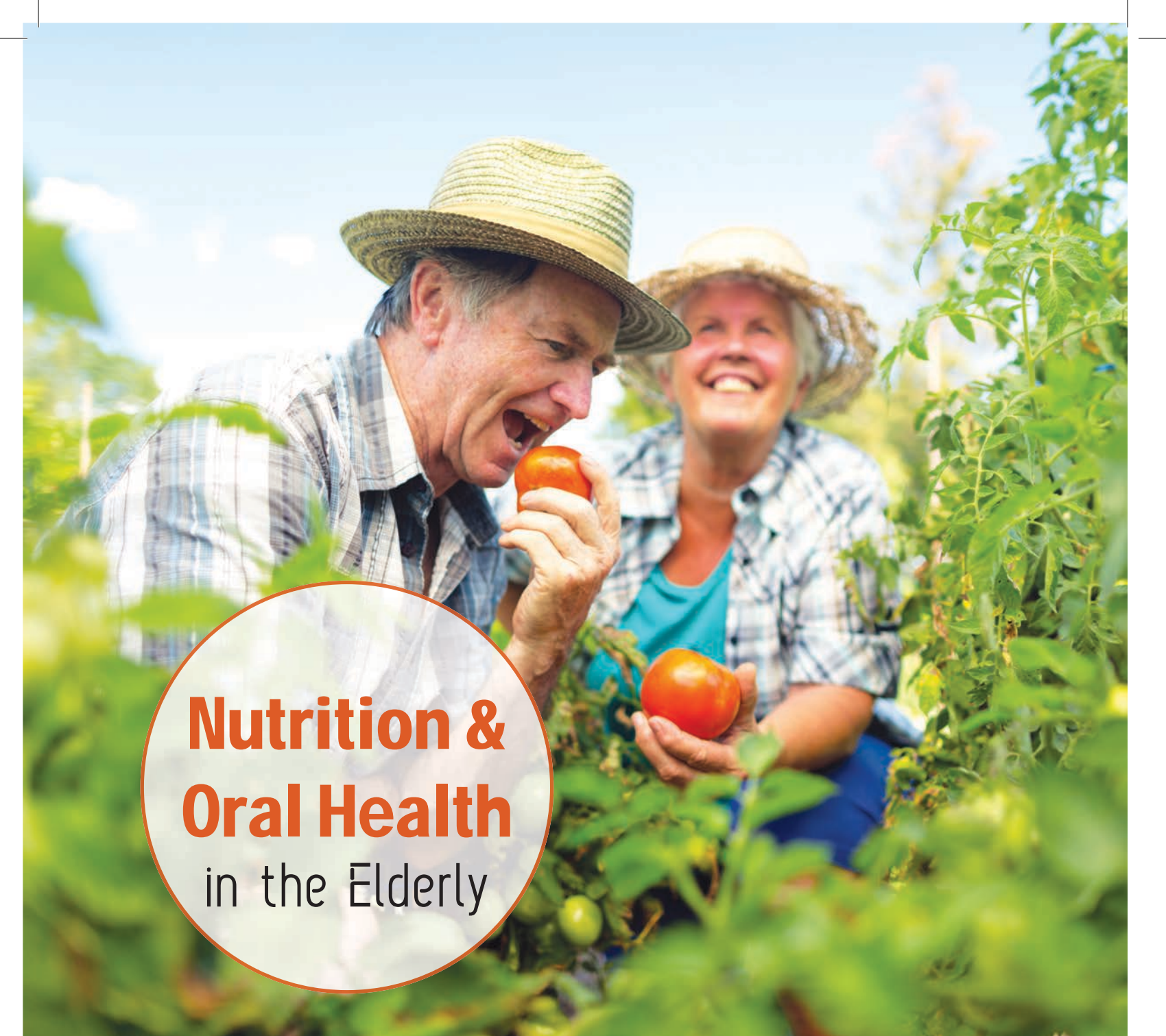
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## Nutrition & Oral Health in the Elderly

The importance of oral hygiene and care is growing steadily in recent times. But the incidence of oral diseases in the elderly is also on the rise. A variety of oral conditions, such as loss of teeth; pain, and discomfort associated with Caries, Periodontal disease, and ill-fitting dentures can lead to an inadequate nutritional status.

Absence of teeth in particular can affect the chewing function of an individual, which would rather make him swallow food, impeding his digestive capacity and nutritional status. Furthermore, selection of food

would also be impaired due to the reduced masticatory capacity of the individual, leading to a restricted intake of Fiber- and Protein-containing food.

Healthy teeth are a prerequisite for a good chewing function, which governs a person's choice of food and nutritional well-being. Maintaining an adequate nutritional status is important for weight management. Inadequate diet can lead to being either underweight, which increases the risk of infections and morbidity, or overweight, which increases the risk of chronic diseases, such as Hypertension and Diabetes.





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Final Year BDS Student



**Guided by**  
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**Poor oral health can gradually lead to serious dental problems, preventing a person from ingesting fibrous food, which, over a period of time, will adversely affect the nutritional status and overall health of the individual**

## Old Age and Oral Health

As people get older, they are more susceptible to weakening and cracking of older dental fillings. In addition, there is a tendency for their teeth to become brittle. Practicing vigilant oral hygiene by including thorough brushing twice a day and flossing daily, along with visiting the dentist regularly for comprehensive oral examination can go a long way in reversing many potentially serious oral conditions.

Dentists can also detect signs of nutritional deficiencies, as well as symptoms of a number of systemic diseases, including Early Diabetes, Adverse drug reactions, Oral Cancers, Infections, and Immune Disorders. However, the story will be a different one for frail or functionally dependent senior citizens. These are people who need assistance to maintain even the basic levels of personal care, whether at home or in a long-term care facility.

## Nutrition in Old Age and its Implications for Oral Care

Adequate nutrition is a vital factor in promoting health and well being of the aged. Poor oral health can gradually lead to serious dental problems, preventing a person from ingesting fibrous food, which, over a period of time, will adversely affect the nutritional status and overall health of the individual. Disorders of the oral cavity can contribute to poor eating habits in the elderly. Loose / painful teeth or ill-fitting





## Good dental status is an important contributing factor to health and adequate nutrition in the elderly

---



dentures can result in a reduced ability to eat. A compromised nutritional status can further undermine the integrity of the oral cavity.

Caloric requirements usually decrease in the elderly because of a decline in the basal metabolic rate. Appetite and food intake may also decrease, leading to an insufficient caloric ingestion. Daily energy needs of a person aged 80 years is approximately 8000 kilojoules (kJ) per day. An active elderly individual requires 0.97 grams of protein per kilogram (kg) of body weight a day.

Good dental status is an important contributing factor to health and adequate nutrition in the elderly. Missing dentition and ill-fitting dentures can cause difficulty in chewing and taste perception. Chewing efficiency and nutritional status can improve with the correction of inadequate dentition.

But even after replacing the teeth, their masticatory capacity will be less efficient than that of those with intact natural dentition. Denture status may contribute to a dietary change from hard to soft or easily chewable foods, which are often high in fermentable carbohydrates.

### Macronutrients and Micronutrients

The Recommended Dietary Allowance (RDA) of 1.5 grams of protein per kilogram (kg) of body weight a day is reasonable for

the optimum health and function of older people. Reduced intake and unbalanced diet will predispose these people to Vitamin and Mineral deficiencies. Prolonged consumption of drugs can affect their capacity for Vitamin absorption and can also interfere with their metabolism, causing delayed elimination of Vitamins. Smoking can interfere with the absorption of Vitamins, particularly Vitamin C and Folic Acid.

Vitamin D deficiency can often result from reduced dietary consumption, Gastrointestinal Disorders, and Kidney problems, which can lead to Osteomalacia and Myopathy. It can also result in reduced bone density, impaired mobility, and increased risk of falls, probably along with an increased risk of developing Type 1 Diabetes, Cardiovascular Disease, and Rheumatoid Arthritis.

Vitamin B12 deficiency can cause Macrocytic Anemia, Subacute Combined Degeneration (SCD) of the Spinal Cord, Neuropathies, Ataxia, Glossitis (inflammation of the tongue), and Dementia. It can result in reduced bone density and increased hip fracture rate. In older people, Atrophic Gastritis and Pernicious Anemia are the most common causes of Vitamin B12 deficiency. A deficiency of Folate can cause Anemia. Certain drugs like Methotrexate and heavy consumption of alcohol can also contribute to Anemia.

### Fluid and Electrolyte Regulation

Elderly people are more susceptible to developing problems with fluid and electrolyte balance, due to their physiological / renal impairment and changes in thirst perception. An Elderly person may not consume an adequate amount of fluid to maintain ideal Plasma electrolyte concentrations.

This impaired fluid and electrolyte balance can be due to several factors, including reduced Glomerular Filtration Rate (a test to measure the level of kidney function), Incontinence, less efficient sodium-

conserving capacity, reduced ability to excrete water, and altered thirst sensation. Fluid intake can be further affected by physical disability and cognitive impairment of these people.

### Overnutrition in Older People

The prevalence or incidence of being overweight in older people is gradually increasing in the world. Though the risk of mortality in older people with high Body Mass Index is not as great as that of in the younger population, they are at an increased risk of death from conditions, such as Diabetes, Hypertension, and Cardiovascular disease. Caution should be exercised by doctors in recommending interventions for weight loss to overweight older people, solely on the basis of body weight.

### Dentures and Nutritional Status

Dentures help improve the chewing efficiency of edentulous people. Persons with better fitting dentures can chew twice as many hard foods as those with ill-fitting dentures. Lack of teeth has a marked effect on chewing ability and has been shown to restrict the consumption of several foods.

### Dietary Recommendations

Foods high in Fiber and Complex Carbohydrates, such as whole grains, vegetables, and fruits are preferred. Fat intake should be less than 30% of total caloric intake and nutritionally compromised patients should be encouraged to consume nutrient-dense foods. For malnourished elderly patients, counseling may become necessary to improve their dietary habits.

Guidelines of Dietary Reference Intakes (DRI), which was formerly known as Recommended Nutritional Intake (RNI), have been recently revised to adjust to the needs of older adults. Accordingly, there are increased allowances for Calcium, Magnesium, Vitamin

D, Fluoride, Niacin, Folate, Vitamin B12, and Vitamin E for the elderly.

Increasing Dietary Fiber may be useful in the treatment of Constipation, Glucose Intolerance, Lipid Disorders, and Obesity, along with preventing Diverticular Disease and Colon Cancers. Reduction in Sodium has been shown to reduce blood pressure or the risk of developing Hypertension.

### Tips for the Elderly

Limiting eating meals to three times a day with no more than two snacks in between, along with eliminating highly sticky foods, such as crackers, chips, and soft candies will go a long way in reducing dietary carcinogen related issues.

Take care to clean the mouth after every meal. To stimulate salivary flow, include cool, sour, or nutrient-dense foods (sugar-free) and increase water intake.

Brushing and flossing twice a day helps reduce the risk of developing severe oral conditions. If the elderly find it hard to grip and brush thoroughly with a normal toothbrush, they can use an electric brush.

Elderly should also limit the consumption of tobacco and alcohol.

Visiting the dentist regularly at least once a year should also be encouraged. ©

# *Child Psychology*

*Sigmund Freud* proposed that children go through a series of psychosexual stages that lead to the development of their adult personality







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**M**r. Jean Piaget, a Swiss psychologist known for his work on child development once said: “It is with children that we have the best chance of studying the development of logical knowledge, mathematical knowledge, physical knowledge, and so forth”.

Child Psychology is a science that deals with the study of a child’s mind and its functions. Parents have their own ways of

interpreting their children’s skills and abilities or incompetence. When you cannot understand your children, you may misinterpret or misjudge them. Parents have to play a paramount role in the psychological development of their children.

There are a lot of theories on Child Psychology that pave the way for promoting the psychological development of children.

One of the most important theories of Child Psychology is proposed by Sigmund Freud, the father of Psychoanalysis. He proposed that children go through a series of psychosexual stages that lead to the development of their adult personality. He divided the psychosexual development of a child into five stages, namely;

1. Oral (Birth – 18 Months)
2. Anal (18 Months – 3 or 4 years)
3. Phallic (3 or 4 years – 6 years)
4. Latency (6 – 11 years)
5. Genital (11 years onwards)

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## **Child Psychology is a science that deals with the study of a child’s mind and its functions. Parents have their own ways of interpreting their children’s skills and abilities or incompetence**

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### **1. Oral Stage**

During the first 18 months of life, the mouth is the most sensitive zone. The Mouth experiences most tension during this stage and hence, it requires tension reducing stimulations. Eating, biting, keeping objects in the mouth etc., are helpful in reducing young children’s tension. Feeding a child properly at the right time is essential in this stage. Overfeeding or insufficient feeding can result in oral fixation (oral craving).



#### **Symptoms of Oral Fixation**

The symptoms of oral fixation in overfed young children are

- Laid-back attitude (relaxed attitude)
- Completely dependent on others
- Do not take an initiative on their own

The symptoms of oral fixation in insufficiently fed cases are

- Aggressive
- Jealous

## 2. Anal Stage

In the Anal stage, the pleasure zone shifts from the mouth to the anal region. This is the stage of toilet training. Children get pleasure from the movement of the bowels or withholding their movements.

### Symptoms of Anal Fixation

#### Anal expulsive Characters

- Sloppiness
- Disorganized
- Recklessness
- Carelessness

#### Anal retentive Characters

- Obsessively clean and orderly behavior
- Selfish and self-centred

## 3. Phallic Stage

A child enters this stage at about 3 – 4 years. Genitals become the most sensitive area in this stage and a child derives pleasure in manipulating it. This is the most challenging stage in a person's psychosexual development. In this stage, children develop a feeling of attraction towards the parent of the opposite sex and a relative hatred towards the parent of the same sex.

In this stage boys usually develop an intense fear of punishment from their fathers. A child who successfully resolves this stage begins to identify himself with the parent of the same sex. This is also a stage where they adopt the morals and values of their parents.

### Symptoms of Phallic Fixation

- Weak or confused sexual identity
- Incapable of developing close love or intimacy

## 4. Latency Stage

This period starts around the age of five and extends up to puberty. In this stage, children learn about the culture, values, and the social environment around them, in addition to developing their own skills, capabilities and interests.

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**Parents have to play a paramount role in the psychological development of their children**

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## 5. Genital Stage

This stage starts when a child reaches puberty or sexual maturation. In this stage, an individual develops a strong sexual interest in people outside the family. According to Sigmund Freud, if a person experiences any difficulty in this stage it is because of fixation in an earlier stage.

### Tips to understand your Child's Psychology better

#### Observation

It is one of the simplest and most efficient ways to understand your child. Observation of your children's actions, expressions, and temperaments when they eat, sleep, and play will help you know them better.

#### Spending Quality Time with your Children

Parents today are busily juggling between work and home. Hence they have very little time to spend with their children. Spending a few minutes together at the dinner table or driving them to and from school is not enough for your children. You have to dedicate as much time as you can to talk to and play with them. Conversations with your children will help you know what is happening in their life and what makes them excited as well as what does not.

#### Children need your undivided Attention

When you plan to spend your time with your children,



give them your undivided attention, as they need it more than anything else. Plan at least one activity that allows you to spend time exclusively with your child. When you provide your undivided attention, your child may feel safe and is likely to open up to you more.

#### **Pay Attention to your Child's Environment**

The behavior and attitude of a child are largely determined by the environment where he / she has been brought up in. To know a child better, it is necessary to pay proper attention to his / her environment, which is largely dependent on the kind of people around him / her and how he / she interacts with them.

#### **Understand how a Child's Brain Functions**

The brain's functions like reasoning / thinking is shaped by the experiences a child has in life, which help shape his / her response to different situations. Understanding brain function will help you learn more about your kid's behavior, decision making, goals, and abilities.

#### **Listen to your Children**

Effective listening is more important than talking. Try to start a conversation with your children and listen to what they are saying. Not only should you listen but also let them know that they are being heard and taken seriously. You should also help them express themselves in as many ways as possible. Take time to understand and encourage / appreciate their ideas, artwork etc. If you do not do so, it can discourage them from asking subsequent questions.

#### **Observe other Kids**

Observing other kids of the same age may help you understand the abilities and weaknesses of your child. But do not compare your child with other chil-

dren and pass judgments, as it can have a negative impact.

#### **Empathize: Step into your Child's Shoes**

Listen to their emotions and try to gauge the situations they are going through. Step into their shoes and use their language to have a good rapport with your children. When you do not understand your child's behavior, ask yourself how you would have reacted or behaved if you were in his / her place.

#### **Understand your Child's Emotional Quotient (EQ)**

EQ is a person's ability to identify, express, and control his emotions. Children are born with a unique temperament. Some are outspoken while others are shy or slow to warm up. It is your responsibility to know your child's EQ and help them grow into a healthy, emotionally intelligent adult.

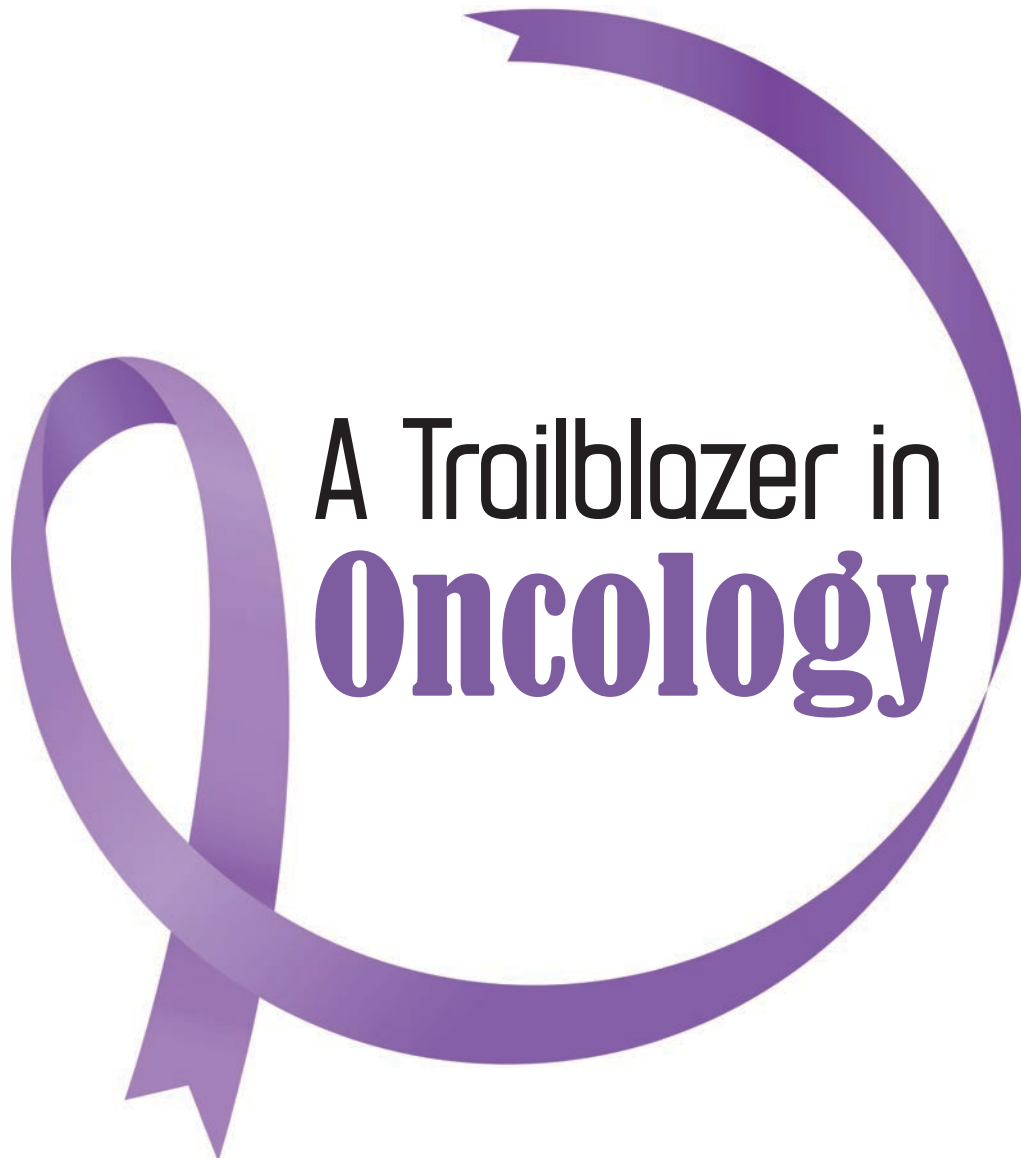
#### **Do not assume**

Do not assume that you know everything about your child like what he wants or how he feels at a particular time / situation. Such assumptions can lead to wrong conclusions. Therefore, before making any choices for your children, it is always better to ask for their likes / dislikes or else your conclusions may go wrong.

### **Conclusion**

Emotional, social, and physical development of young children has a direct effect on their overall development, in addition to molding their personality. It is important for every parent to understand Child Psychology better, as it will help you resolve the issues causing emotional or behavioral problems in your children, such as learning disabilities, Attention Deficit Disorder (ASD), Hyperactivity, Anxiety and Depression. ©





# A Trailblazer in Oncology



*The most important stumbling block is the misconceptions / myths about Cancer, like it is a disease of Karma, it is incurable; it is contagious, and many more*

**P**adma Vibhushan Dr. V. Shanta, a nonagenarian and one of the most prominent Oncologists India has ever seen, is the Executive Chairperson of Cancer Institute (Women's Indian Association – WIA) Adyar, Chennai, India. She has been associated with Adyar Cancer Institute since 1955 and has held several positions, including that of its Director from 1980 to 1997.

She also served as a member of several national and international committees on health and medicine, including the World Health Organization's Advisory Committee on Health. She passed Bachelor of

Medicine, Bachelor of Surgery (M.B.B.S.) in 1949, Diploma in Obstetrics and Gynecology (D.G.O.) in 1952 and Doctor of Medicine (M.D.) in Obstetrics and Gynecology in 1955.

Her selfless service and contributions have helped her win several recognitions like the Ramon Magsaysay, Padma Shri, Padma Bhushan, and Padma Vibhushan Award.

She has published over 95 papers in national and international journals, contributed chapters in Oncology books, delivered many prestigious orations,



Dr. V. Shanta

and participated in many international and national conferences.

**Dr. Shanta** in a heart-to-heart chat with “The DentCare” opens her mind.

**Q What is the importance of ‘World Cancer Day’?**

World Cancer Day is essentially an effort to enhance awareness and educate the general public about the menace of Cancer, along with dispelling misconceptions / myths about it.

The theme of World Cancer Day varies from year to year and focuses on particular issues or conveys a message like “Tobacco-free Environment”, “Tobacco-free Films”, “Tobacco and Health Profession”, “Protect Youth from Tobacco”, and many more. Observance of World Cancer Day aims at reducing the global impact of Cancer.

**Q Why does India have the third highest number of Cancer Cases among Women?**

In general, Cancer is found more in women than in men even though men outnumber women among the general population in India. Higher incidence of Cancer in women is essentially due to the presence of organs like breast, uterus, cervix, ovary etc.

**Q It is said that Cancer hits more women than men in India but the men affected with Cancer have a low Life Expectancy. Is there any fact in it?**

Cancers strike more women than men in India. There is no data to confirm that men affected with Cancer have a low life expectancy. Life expectancy largely depends on the type of Cancer and the stage of the disease. Cancers in early stages are curable while in advanced stages, the survival rate is poor.

**Q How active are the Programs for the Prevention and Screening of Cancers in India? What Measures would you suggest to bring down the incidence of Cancer in the Country?**

Programs for the education, awareness, prevention, and screening of Cancers have been a part of many Voluntary Service Organizations. The Government of India and State Governments like Tamil Nadu are actively involved in these programs. Cancer Institute (WIA) has set up centers in five districts of Tamil Nadu – Viluppuram, Thiruvannamalai, Gummidipoondi, Pudukkottai, and Chennai, which are actively engaged in screening and education programs. Those diagnosed with Cancers in these programs are provided free treatment at Cancer Institute (WIA).

Cancer Institute (WIA) has been a pioneer in the field for over six decades since 1968. The understanding of the rural population, in view of poor education, is not adequate. A major obstacle in reducing the incidence of Cancer is noncompliance of patients. Even when Cancer is detected in early or precancerous stages, patient compliance with medication has not been adequate. Currently, there is a remarkable improvement in the compliance rate, which is around 60%, but still, 40% of patients are non-compliant. Another hindrance is lack of follow-up of those detected with precancerous conditions or Cancers.

**Q What are the biggest challenges being faced to control the disease in the country?**

The challenges for controlling Cancers are many. The most important stumbling block is the misconceptions / myths about Cancer, like it is a disease of Karma, it is incurable; it is contagious, and many more. The other challenges are lack of awareness and irrational fear and panic about Cancer. Detecting Cancers in advanced stages, along with poor affordability and accessibility to Cancer treatment is also standing in the way of controlling the disease in the country.

**Q Is Cancer a Preventable Disease? Or else, what are the Measures to be taken to keep the Menace of Cancer at bay?**

There is incontrovertible evidence that over 50% of Cancers are preventable. Many risk factors for Cancer are related to lifestyles, such as the food we eat, habits we indulge in, hygiene we observe, and the air we breathe in. Prevention involves simple living, rational habits, balanced diet, and good hygienic practices.

Health screening will help detect Cancers, especially in early or precancerous stages. Screening and early detection of Cancer will help increase survival and decrease mortality rate.

**Q Approximately 60% of your Patients either get Treatment free-of-cost or at highly subsidized rates. How do you then manage Funds to run this Institute with the best care and Treatment?**

Fund management depends on one's motivation to provide for the underprivileged. It undoubtedly needs a strong commitment and ethics of service. We carefully control unnecessary expenditure towards water, electricity, paper, food, and other day-to-day requirements. Our salary structure for the staff is consistent with our income. We usually recruit staff with a service mind; who do not insist on a corporate salary structure. Expenditure control is effectively practiced to maintain financial stability. At the same time, we do not delay in upgrading to the latest technology to keep in touch with the state-of-the-art. Public support has always been very helpful in

tackling our financial problems.

Mandatory Corporate Social Responsibility (CSR) of business entities has made a significant difference in the financial position of this institution. Despite being a voluntary institution with limited resources, we have been pioneers in many fields and have been credited with many firsts. For this, commitment, dedication, and motivation of the whole team are necessary. Whatever has been achieved is as a result of teamwork.

**Q Would you share an Experience in your professional life that you wish to cherish forever?**

A number of experiences in my professional life, which extends over six decades, come to my mind; one of joy, sorrow, achievement, and so on. No two cancer patients are alike; every patient has a unique story of his or her own. I will recount a story.

In 1987, a 22-year-old female patient named Padmaja, a Research Fellow at Indian Institute of Technology (IIT) Madras, was admitted to the institute with unaccounted fever. She was diagnosed with Acute Leukemia. With continuous medical care and scientific management, she achieved complete remission and remained stable for long. She continued her studies and took Doctorate in Physics.

After five years, in 1992, she asked me: "Can I go abroad for higher studies?" "Why not?", I replied. "What about my follow-ups?", She enquired. "You do not need any, except occasional ones. You are completely cured.", I said. She was delighted. She applied for a Commonwealth Fellowship and was duly selected. But then came the bombshell – the Medical Board rejected her application on medical grounds. She came running to me. "Madam, you told me I was cured but see what has happened." I was indignant.

It was a time when Cancer was emerging in India. Since I could not convince the authorities concerned, I wrote to Dr. Ray Powles, Head of the Department of Leukemia at the Royal Marsden Hospital, a specialist Cancer Hospital in London, United Kingdom, requesting his intervention.

After a few consultations with the Commonwealth Authorities in England, Dr. Padmaja's Fellowship got clearance. She went to the United Kingdom (UK) and completed her Fellowship. She got married and settled down in the United States of America (U.S) with her children. She is now busy with her academic work. ©

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**For The DentCare**  
Interviewed by  
**Ms. Nisha Philip Xavier**





## #I AM AND I WILL

Whoever you are, you have the power to reduce the impact of Cancer for yourself, the people you love and for the world.  
It's time to make a personal commitment.

### WORLD CANCER DAY 2019

4<sup>th</sup> February

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## *A Cosmetically Pleasing and Invisible Orthodontic Solution*

**D**entCare Clear Aligners are outstandingly exceptional in many aspects compared to those of their counterparts. For optimum precision, DentCare Clear Aligners are fabricated using 3Shape Scanners, along with 3Shape Ortho Analyzer and 3D Model Printing Systems which are counted amongst the best, globally, in dentistry. Furthermore, DentCare Clear Aligners are manufactured with Medical Grade Materials from Germany.

What makes DentCare Clear Aligners more distinctively Unique!!!

- \* A 3D printed model will be given along with a set of DentCare Clear Aligners to see each stage of orthodontic therapy and even the end results.
- \* Together with a set of DentCare Clear Aligners, we provide a kit, containing the Wear Schedule – instructions for wearing Clear Aligners, Patient Manual, Cleaning Brush, and a Box for storing the aligners when they are outside of the mouth.

DentCare Clear Aligners are completely removable. You can take them out, eat your meals, brush your teeth, and place them back. It is the best orthodontic treatment as it helps ensure the patient's oral hygiene and health.

DentCare Clear Aligners are worn for at least **20 hours** a day to attain the desired effectiveness. Each set of DentCare Clear Aligners is **changed every two weeks**, which progressively helps move the teeth to the pre-programmed position.

The length of treatment with DentCare Clear Aligners depends upon the severity of the case, the complexity of tooth movement planned, and the number of stages required. Overall, DentCare Clear Aligners offer a much **shorter treatment time** when compared to traditional braces and provide optimal and accurate treatment outcomes.

**Dr. Jacob Abraham**  
Orthodontist  
DentCare Dental Lab Pvt. Ltd.  
Muvattupuzha, Kerala, India

**DentCare Clear Aligners are used for several types of orthodontic correction like**

- \* Diastema closure
- \* Correction of moderate crowding of anterior teeth
- \* Correction of deep bite
- \* Correction of over jet
- \* Correction of open bite

**How are DentCare Clear Aligners custom-made?**

Every DentCare Clear Aligner is custom-made using German technology and is supervised by a team of Orthodontists, CAD / CAM Engineers, and Biomechanical Experts who **continuously monitor the entire production process** to improve your path to a beautiful smile.

**Scanning**

Impressions are taken using intraoral scanners or traditional methods to fabricate your DentCare Clear Aligners. Our well-trained orthodontic technicians then separate and move the misaligned teeth digitally into their ideal positions and carefully map the progression of each stage of treatment. We then print 3D models for each position and fabricate Clear Aligners based on those models, allowing us to design an aligner that fits and functions precisely as needed.

An important advantage of this technology is that it

helps simulate the treatment outcome, helping the doctor, the dental lab and the patient to understand better every stage of treatment and even the final outcome prior to initiating the DentCare Clear Aligner treatment.

DentCare Clear Aligners come with clear cut instructions for both the clinician as well as the patient.

**Designed, Fabricated, and Approved by Doctors**

DentCare Clear Aligners are designed, fabricated, and approved by our team of Orthodontic Specialists, CAD / CAM Engineers, and Biomechanical Experts. We uncompromisingly maintain the highest quality of standards in our products and each DentCare Clear Aligner is uniquely designed to provide an optimal treatment outcome.

Our Orthodontic Specialists are directly involved in each stage of the treatment, ensuring that both doctors and patients are satisfied with DentCare Clear Aligners and the entire treatment process.

**Comfort Assured and Quality Guaranteed**

DentCare Clear Aligners were born out of our desire to provide patients with the best orthodontic experience possible. We ensure that our treatments live up to the **highest standards of care** and expectations of patients and doctors.

We have invested in **high-end equipment and software**, allowing us to utilize our orthodontic expertise in designing, fabricating, and controlling an all-new aligner system that helps meet the expected standards of treatment. Our orthodontists use a combination of high-tech software, 3D printers, and strategically planned translucent materials to provide you and your patients with the **best orthodontic aligner care** in the country. DentCare Clear Aligners have been incredibly well accepted by patients and dental practitioners.

What makes DentCare Clear Aligners unique is that you can straighten your teeth without other people ever realizing that you are undergoing orthodontic

**DentCare Clear Aligners are easier to keep clean, making it conducive to maintaining the health of your teeth and gums**





### Why DentCare Clear Aligners?

DentCare Clear Aligners are the **best alternative** to patients who want to straighten their teeth but do not like to wear traditional metal braces. DentCare Clear Aligners are also beneficial to people who have had previous orthodontic treatment, but want to make minor corrections to further improve their smile.

### Potential Drawbacks

No treatment is without risks or disadvantages. The disadvantages of DentCare Clear Aligners are very few when compared to its multiple advantages. The treatment outcomes, i.e., the satisfaction with the smile, largely depend upon the ability and willingness of the patient to follow the treatment plan as instructed. Patients requiring certain complex tooth movements are not ideal candidates for aligner therapy, who may require the finesse of metal braces for smile correction.



### Comparison between DentCare Clear Aligners and Conventional Braces

#### DentCare Clear Aligners

1. A series of clear, removable translucent splints that fit perfectly over the teeth
2. Replaced every two weeks to gradually move the teeth into aligned position
3. Virtually invisible and highly aesthetic
4. Can be removed for normal brushing and flossing; hence good oral hygiene could be maintained
5. Patients experience minimal discomfort during treatment
6. Follow-up visits are required once in 4 to 6 months only
7. Entire treatment plan is fully computerized and patients can virtually see the treatment outcomes well before the commencement of treatment
8. Hassle-free speech and smile

#### Conventional Braces

1. Stainless steel brackets and wires will stick out from the teeth
2. Adjusted all through treatment to gradually move the teeth into aligned position
3. Highly visible and not aesthetic
4. Cannot be removed for normal brushing and flossing; hence good oral hygiene would be difficult
5. Patients experience Mouth Sores / Ulcers due to irritation from components of the brace / broken brackets
6. Follow-up visits are required every month
7. Treatment plan is not computerized and patients cannot see the treatment outcomes before the commencement of treatment
8. Affects the speech and smile

#### DentCare Clear Aligners: The Brightest Solution for Straightening your Teeth

During treatment, each DentCare Clear Aligner is replaced following the prescribed sequence as the teeth move – little by little, week by week – until they have straightened to the final position.

*Stay in your comfort zone with DentCare Clear Aligners!!* ®

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INDIA

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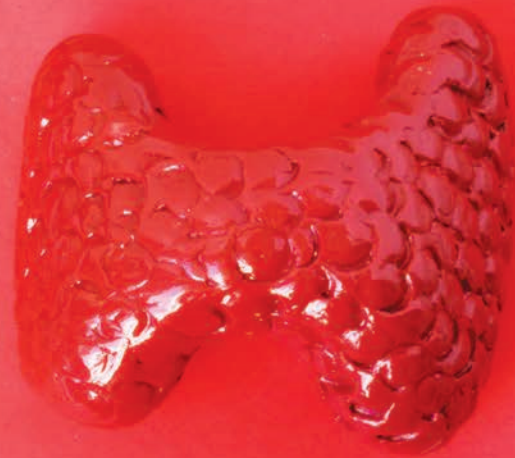
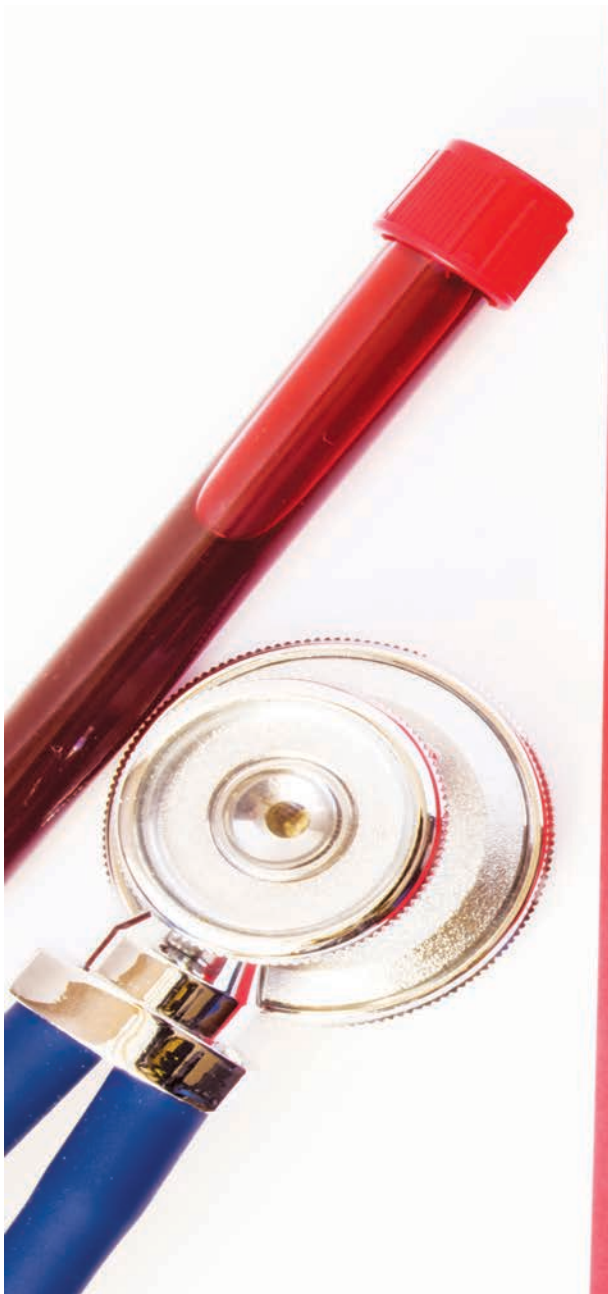
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# THYROID SURGERY A Novel Procedure

The thyroid is a small gland shaped like a butterfly located in the lower front part of the neck, just below the voice box, in the central compartment. The thyroid produces hormones that the blood carries to every tissue in the body. It helps regulate metabolism, the process by which your body turns food into energy. It also plays a role in keeping the organs functioning properly and helping the body conserve heat.

A Thyroid Surgery may become necessary if a person has

1. A nodule that might be a Thyroid Cancer
2. A diagnosis of a Thyroid Cancer
3. A nodule or Goiter that causes local symptoms, such as Compression of the Trachea, Dysphagia (difficulty in swallowing) or a visible / unsightly mass







**Dr. Thomas Varughese**  
Senior Consultant in Surgical Oncology  
and Reconstructive Surgery  
Renai Medicity Hospital  
Kochi, Kerala, India

## Thyroid Surgery

Thyroid Surgery / Thyroidectomy is a procedure that involves surgical removal of all or a part of the Thyroid gland. A non-cancerous and cancerous tumor may require surgical removal, which can leave an apparent scar for a length of four inches or more on the neck, making it look unaesthetic.

Whether it be a male or female, young or old, married or unmarried, no one likes to have a cicatrix (scar of a healed wound) on the root of the front of the neck, one of the most exposed parts of the body.

The conventional Thyroid Surgery, which is universally called Kocher's Thyroidectomy, was introduced about 140 years ago at a time when there were no imaging tools like Ultrasound Scan, Computed Tomography (CT) or Magnetic Resonance Imaging (MRI). It was then an invasive procedure, more commonly leaving a scar, which could be visible even from a



**Thomas' Technique is a minimally invasive, open but scarless surgery based on 3D digital interactive anatomy – an innovation to offer beauty, cosmesis, and quality of life for patients with commonest tumors**

distance. The most common possible side effects of this procedure were Voice Loss / Change in Pitch, and Calcium Deficiency, along with other problems like Neck Pain, Sore Throat, Dysphagia, Hoarseness, temporary Hypoparathyroidism, etc.

Thomas' Technique is a minimally invasive, open but scarless surgery based on 3D digital interactive anatomy – an innovation to offer beauty, cosmesis, and quality of life for patients with commonest tumors.

Benefits of this surgical technique are many. It helps prevent Voice Loss and Calcium Deficiency. Being a minimally invasive procedure, patients can leave the hospital within 24 hours and can resume their work or routine chores in three days. Besides, it is a cost-effective surgical procedure, respecting health economics.

In certain instances, the thyroid gland can extend into the chest, which is known as retrosternal extension. This technique is handy even in such situations, as it helps remove the intrathoracic component without opening the chest, thereby avoiding another major surgery, added morbidity, and cost.

This surgical approach is performed along the natural crease on the lateral aspect called Langer's lines, saving all the vital structures via a small incision on the side of the neck, which becomes nearly invisible approximately within six months. With this innovative technique in Thyroid Surgery, the beauty of the neck remains almost intact, as the procedure is least invasive. More than that, it is a tension-free intervention.

### To sum up

So far, I have successfully performed over 1500 Thyroid surgeries in a similar fashion. My scientific paper was accepted in the European Society of Surgical Oncology (ESSO) Congress held in Budapest, Hungary and was widely appreciated by the scientific community. I have already made 20-plus presentations of this technique in international and national conferences. This technique has been acclaimed as a part of Cosmetic Oncology. ®



# OSTEOARTHRITIS

## *An Overview*

**O**steoarthritis (OA) is a common problem in people aged 50 or above, but it is most common in people older than 65 years of age. It is more common in women than in men. Though OA can affect any joint, it most often occurs in the major joints like the knee, hip, wrist, low back, and neck.

Osteoarthritis, a degenerative disease of the joints, can lead to painful joint locking, commonly occurring in middle-aged and elderly individuals due to the breakdown of cartilage. Osteoarthritis becomes more painful when it affects the weight-bearing joints.

Globally, OA, which ranks eighth in all diseases, accounts for about 15 % of all the problems related to Musculoskeletal Disorders. OA is the second most common Rheumatic Disorder and the most frequent joint disease in India with an incidence ranging from 22% to 39%. India is predicted to become the capital of chronic diseases by 2025 and is expected to have 60 million people with Arthritis.



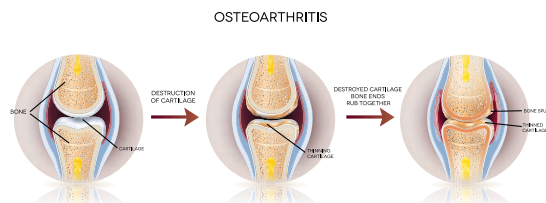


**Prof. (Dr.) K. Jagannathan**  
Vice Principal  
Santhigiri Siddha Medical College Hospital  
Thiruvananthapuram, Kerala, India

### Risk Factors for Osteoarthritis

- The risk of developing OA increases with age as a result of progressing wear and tear of the joints.
- Women are more likely to develop OA than men. Deficiency of Hormones, overuse of the joints, prolonged standing, low intake of food, nutritional deficiencies are some of the factors that contribute to the disease.
- Obesity is another factor which puts added stress on the weight-bearing joints, especially the knee and the hip. Obesity may be the result of overeating, increased intake of fats, sedentary lifestyles, hypothyroidism, metabolic disorders, and hormonal imbalances. Studies suggest that fat tissues produce inflammatory chemicals (Cytokines) that may cause damage to the joints.
- Injuries to the joints or associated structures like Tendons / Ligaments and weakness of the connected muscles can lead to OA. Standing for a long period of time, repetitive bending, overuse of the joint, and heavy lifting can also contribute to rapid wearing of cartilage.
- Genetic Disorders and defect in the production of collagen in the body can also make a person more likely to develop OA.
- OA may be the result of secondary causes like Rheumatoid Arthritis and Gout which itself can cause damage to the joints.

Based on the signs and symptoms of the joints, OA can be easily diagnosed and confirmed. If you are aged 50 and above, you may have severe joint pain that may get worse with repeated use. If you



use your joints more frequently, they will become stiff, especially in the morning. There may be crackling sounds or crepitus in the joints while you move around. Imaging Techniques like X-Rays, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI) are also helpful in confirming the disease and assessing the extension of the damage.

### Conclusion

In the Siddha System of Medicine, there are specific medications for OA which help reduce the pain and inflammation, besides strengthening the bones and joints and increasing the secretion of synovial fluid in the joint cavities.

Siddha Medicine provides comprehensive care for patients suffering from OA, in addition to improving their functional ability and quality of life. If a patient suffers from a permanent deformity of the joints, he will be referred to an Orthopedic Surgeon. Arthroplasty, Arthrodesis, and Osteotomy are some of the main surgical procedures performed by Orthopedic Surgeons for the management of OA.

Physical activity and exercise are also imperative to keeping the patients active, building up their muscles, strengthening the joints, losing weight, improving the posture, relieving stress, and increasing their fitness. ®



# Experience DentCare



## Journey to Excellence

**I**t was a privilege to visit DentCare Dental Lab. I was profoundly amazed to witness the world-class setup. It was an astoundingly wonderful experience for me. Really proud that such an institution exists in India, especially in Kerala.

May the lab grow from strength to strength!! ©

## Meeting Expectations

**E**quipped with the most refined and ultra-modern facilities, the lab provides a myriad of world-class and flawless dental solutions that rise to the expectations of dental practitioners across the globe. The entire staff of the lab starting from the Marketing Executives to the Technicians are equally gentle and dedicated to their work. More than that, their punctuality and commitment are also praiseworthy. The lab visit was indeed a mind-blowing experience for me. ©



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# DENTCARE:

Well-Equipped  
with  
Versatile  
Products

**D**entCare Dental Lab has embedded itself with an objective to bring together the world's preeminent branded materials of proven quality and high-end technologies. Most recognized brands like Ivoclar Vivadent, Shofu, EOS, and 3Shape sourced from Germany, Switzerland, Europe and the United States of America are used for manufacturing its extensive range of dental prostheses.

Over the past 30 years, we have dedicated ourselves to contributing to healthy, confident smiles for over 40 million satisfied patients and to the delight of more than 40 thousand dentists around the globe.

## DentCare Zirconia – “One Product for Diverse Options”

The paradigm shift in dentistry for life-like restorations that mimic natural tooth structure based on perceived and actual aesthetic and functional patient demands has led DentCare Dental Lab to offer DentCare Zirconia – a revolution in Metal-Free Prostheses.

DentCare Zirconia is biomedical grade Zirconia made in Germany. Available in diverse options, DentCare Zirconia range of products assure natural feel and functionality, unmatched aesthetics and unlimited characterization and are made available in more than 40 natural and lifelike shades.

It is manufactured using an innovative Computer Aided Design / Computer Aided Manufacturing (CAD / CAM) technology offering perfect fit and marginal adaptation to the final product. This unique material provides full scope for cement-retained crowns and bridges on natural teeth (up to 16 units as a single restoration) as well as cement and screw-retained solutions for implants (single and multiple-unit).



## DentCare Zirconia Variants

DentCare Zirconia Platinum Plus  
DentCare Zirconia Platinum  
DentCare Zirconia Premium Plus  
DentCare Zirconia Premium Plus Full Contour  
DentCare Zirconia Premium  
DentCare Zirconia Premium Full Contour  
DentCare BruxCare  
DentCare Zirconia Classic  
DentCare Zirconia Classic Full Contour  
DentCare Zirconia Superlucent  
DentCare Zirconia Basic  
DentCare Zirconia Basic Full Contour  
DentCare Zirconia Ultra  
DentCare Zirconia Solid



### Why Medical Grade DentCare Zirconia?

- ⇒ Natural feel and functionality
- ⇒ Unmatched aesthetics
- ⇒ High strength
- ⇒ Highly biocompatible
- ⇒ Unlimited characterization made available through more than 40 natural and lifelike shades
- ⇒ The tooth-colored translucent substructure helps ensure that the natural tooth shade comes right from the internal framework level, unlike Porcelain Fused to Metal (PFM) or other normal Zirconia systems with opaque frames
- ⇒ Designing and manufacturing using CAD / CAM helps ensure outstanding marginal fit

## DentCare Clear Aligners

Dental Braces are now entering a brave new world of comfort and ease with DentCare Clear Aligners – a series of transparent aligners to realign teeth. Each DentCare Clear Aligner is unique as it is customized for the patient's teeth. They can be easily changed every two weeks, sparing users the tedious task of heavy maintenance.

There is absolutely no need to spend long hours at the clinic negotiating conventional brackets and wire adjustments. Patients and dental clinicians stand to gain numerous valuable hours. Consequently, the dental clinician also gets to spend quality, value-added time with each patient.



## Dental Implant Prostheses

Dental Implants are popular and effective to replace missing teeth and are designed to blend in with other existing teeth. They are an excellent long-term option for restoring smiles with uncompromised functionality.

Different variants of Implant Prostheses are offered by DentCare and may be made available as screw retained or cement retained crowns / bridges.



### ○ Screw-Retained Hybrid Dentures

'Hybrid denture' is referred to as hybrid because it combines the advantages of a fixed replacement with those of a removable denture. With this, patients regain self-esteem, confidence and can enjoy a wider variety of foods.

### ○ Implant-supported Overdentures

They are available as Bar Attachment / Ball Attachment Overdentures.

## Removable Prostheses

DentCare has incomparable Removable dental prosthetic solutions with impeccable precision to recapture your oral function, aesthetics and liveliness. We have a number of removable dentures that are durable and akin to your natural teeth.

The range of removable prostheses available include

### ○ DentCare Flex

DentCare Flex is an aesthetically superior semi-flexible removable denture which blends perfectly with the natural gum tissue; providing better looks, function and comfort. It can be used in both complete and partial denture cases.



### ○ Cast Partial Denture (CPD)

Cast Partial Denture (CPD) is used in cases with multiple missing teeth. It can be removed and placed back by patients themselves. It is ideal for patients for whom fixed prostheses or dental implants are not indicated. CPDs can be fabricated using Titanium and Cobalt – Chromium Alloy.



### ○ Bio-Functional Prosthetic System (BPS Dentures)

DentCare offers BPS Dentures from Ivoclar Vivadent that is a long-lasting and high-quality option for dentures meant to reproduce the functions of natural teeth. The biofunctional set-up philosophy along with the Model Associated Positioning (MAP) of the artificial teeth in combination with the pressure injection molding procedure is the cornerstone of this system. BPS can be used in partial or completely edentulous cases.



### ○ Acrylic Removable Complete and Partial Dentures

DentCare fabricates extremely natural looking Complete and Partial Dentures using acrylic and denture-teeth of the highest quality, imported from Germany and Italy.

The main advantage of these dentures is that they are cost-effective, yet uncompromising in terms of quality. Additional teeth and denture base can easily be added to an existing Acrylic Denture.

It is also the product of choice for Immediate Dentures and for Temporary Dentures in Implant patients.

### ○ Valplast

The strong, flexible nature of Valplast is perfectly suited to a variety of natural conditions in the mouth, simplifying design and enabling the flexible nylon resin to act as a built-in stress breaker, in order to provide superior function and stress distribution in Removable Partial Denture cases.

It is good for replacing missing teeth in small edentulous cases and should not be opted for in situations where teeth need to be replaced extensively.

### ○ Bio Dentaplast

It is a high strength, injection molded, and biocompatible denture material.



### Dental Precision Attachments

Dental Precision Attachments offer a connecting link between fixed and removable partial dentures, as it incorporates features common to both types of prostheses. Dental Precision Attachments help connect removable partial dentures to fixed bridgework under a male / female locking mechanism.

The 'male' part is fixed to the crown or bridgework, whereas the 'female' part is included within the removable partial denture and engages the 'male' part. The male part of Dental Precision Attachments is often a high strength precious alloy whereas the female part consists of a more elastic alloy.



*DentCare fabricates extremely natural looking Complete and Partial Dentures using acrylic and denture – teeth of the highest quality, imported from Germany and Italy*

### Conclusion

DentCare strongly believes that technology hand in hand with art results in dental prostheses of greater precision and quality.

World-class products are the outcome of our incessant passion for improving the standards of dental care. And this helps to keep us at the forefront of innovation. Our dental prostheses experts are incessantly passionate about exploring new ways to address challenges in enhancing smiles. All the materials we use in production have proven scientific quality and excellence.®

***Smile Confidently, go for DentCare Prostheses***













# RECOGNITION

## Beyond Borders

All dental practitioners encounter one or another kind of problem while providing various treatment modalities, especially prosthetic treatment. Dental laboratories play a key role in making the patient highly satisfied, which in turn, paves the way for our clinical success.

I am happy to have been associated with DentCare, ever since they started operations in Abu Dhabi, United Arab Emirates (UAE). DentCare is an ideal partner in providing dental prostheses of utmost precision and flawless perfection, rising to the expectations of all classes of customers. Their customer service is outstanding and they get to know their customers intimately and treat them wholeheartedly.

I have found a perfect partner in DentCare Dental Lab.®



**Dr. Syed Amjad Fahim**  
General and Cosmetic Dentist  
Abu Dhabi, United Arab Emirates





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German Material and Technology



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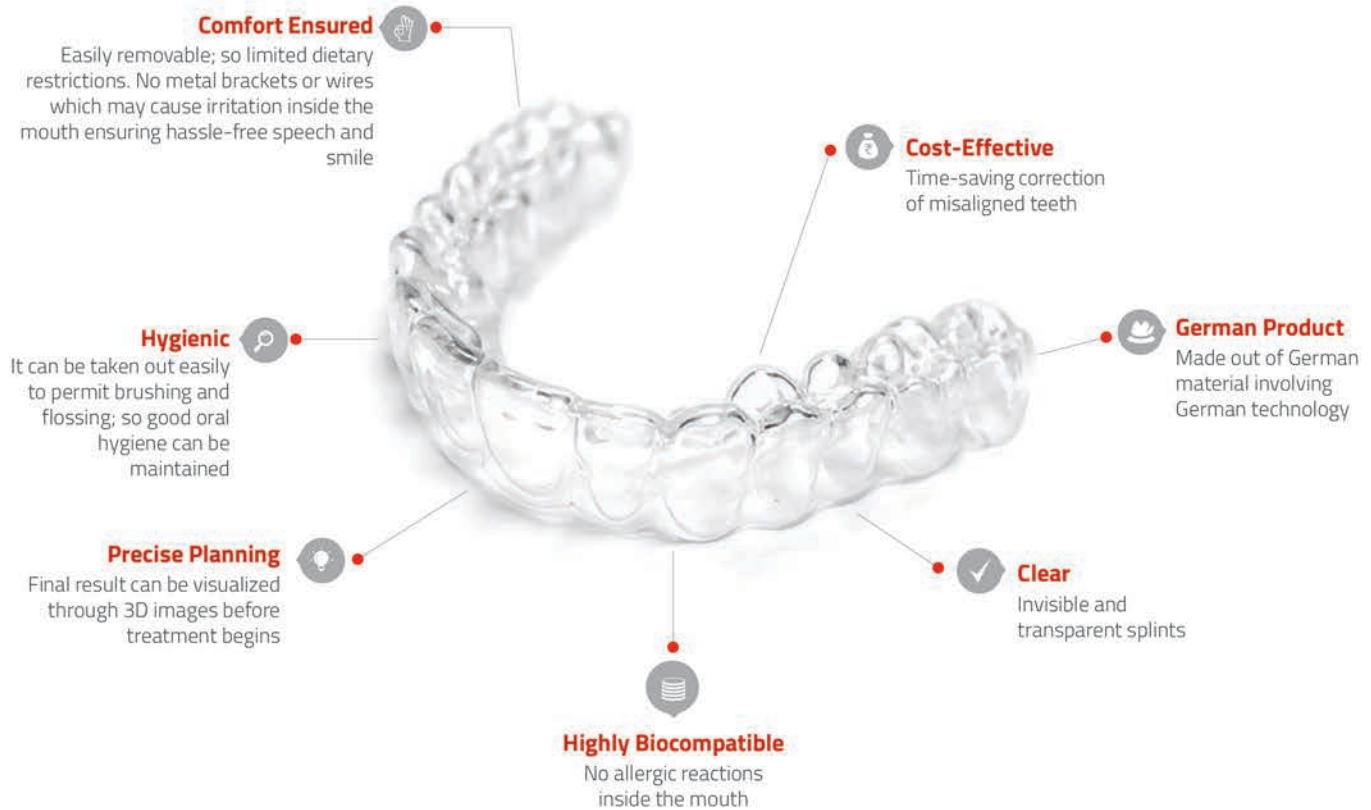
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Before



After



## DentCare Dental Lab Pvt. Ltd.

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