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THE DENTCARE

Your Monthly Health Care Magazine

Brightening smile the world over



**Burning Mouth
Syndrome**

**Know Your
Denture
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**Anaemia in
Pregnancy**

**Adding Sparkle to
Your Smile!!**

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Dear Reader,

Celebrating the Doctor is a wonderful tribute to honoring a profession that reflects a life time of personal commitment, selfless dedication and true sacrifice.

July begins on this immensely worthy note.

Whether it is medical or dental, the Doctor is the one who can assuage best the reasons that compromise your healthy being or for the reasons unknown has the rightful intent to put lives back on track or add sparkle to smiles.

Noteworthy is the mindset that is prevalent today, though, when we question – Who is the better Doctor?

Our complex minds have led us to believe in the pursuit of umpteen second opinions and rely on the wealth of information that envelopes our lives. When it comes to our health, arriving at a convincing decision is always beyond our comfort zones. For everything other reason, we choose to extend the benefit of doubt and are pliable to the outcome.

Doctors have the honorable responsibility of preserving the sacrosanct.

But then at the end of the day, are they not human too? We make mistakes. We accept them. We believe that is how life was meant to be. Then, why are we rather harsh on this breed?? All the time....

Dengue, Epilepsy, Hepatitis, Obesity, Learning disability, Dental Health and now, even Sleep, fall in the realm of their efforts to add needed succor to humankind.

Thankfully, the Doctor has technology to his advantage today. An essential tool that has advanced his abilities to reach out in a manner never foreseen before – rightly termed Computer “aided”.

Material science too has added new dimension to his abilities. Medical Grade Zirconia is certainly a value addition to this armamentarium.

Like I said last month... Every season has a reason.

July sings the tune of the unsung heroes who have the wonderful gift of healing in their hands. God keep their tribe and bless them always.

Yours truly,

Prof. (Dr.) George P. John

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Adding Sparkle to Your Smile!!

“

Tooth jewelry is the latest fad in town, if dental surgeons are to be believed. It is a brilliant way to add a sparkle to your smile and stand out from the crowd

”



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W

Why be on page 3 when you could be on Page 1? All you have to do is, flash your jittery smile with a sparkling jewel. Makes you wonder what it is???

Tooth jewelry is the latest fad in town, if dental surgeons are to be believed. It is a brilliant way to add a sparkle to your smile and stand out from the crowd. You can now have a sparkling crystal glass design or something in gold or a twinkle of ruby or maybe an aquamarine blue diamond shining on your tooth.

Dental jewelry is available in different colors like white, blue, green, orange and pink and shapes like in the form of diamond studs, tooth rings and even tooth tattoos. Diamond studs are most popular and are mounted on lateral incisors. The colors that are suitable for any occasion are sparkling white and sizzling blue.

Mostly jewels are applied to the labial surfaces of upper anterior teeth. It can be easily removed without any damage to the tooth structure. Further, tooth jewelry can be fixed again at a later stage. The jewelry does not tarnish, corrode or wear down. You can place a single piece or multiple pieces of tooth jewelry on one or several teeth.

The procedure is totally painless and the tooth is not damaged in any way. Tooth jewelry does not cause any harm to the lip, cheek or gum. Being the latest fashion craze, readymade tooth jewelry has become affordable for everyone. Dentists of today are finding that more and more people who consult them are no longer really patients. They are

“

These tooth accessories can give you an enchanting dazzle without worrying about brushing, eating or the sparkling crystals becoming dull or changing color

”

individuals who desire perfectly aligned, sparkling white teeth and who may even ask for tooth jewelry.

These cosmetic procedures have to be accomplished by professionals with professional products. The application of dental jewel is completely painless, safe and does not require any anesthesia. The jewel does not damage tooth tissues and has no side effects – except for the increased charm of your smile! The application is a very simple 15 minute procedure.

After a proper oral pro-phylaxis, the jewel is stuck on the tooth with an adhesive substance. This process does not damage the tooth enamel, which is a big advantage. Within fifteen minutes, with no effort at all, you can get a colorful and shimmering jewel fixed on your canines / incisors at your convenience. The doctor provides you with all instructions concerning the care of dental jewels. Most important is perfect mouth hygiene. If the jewel gets loose

unexpectedly, it is possible to reattach it without consequences.

These tooth accessories can give you an enchanting dazzle without worrying about brushing, eating or the sparkling crystals becoming dull or changing color. Call it an oral fashion statement to stand out among ordinary mortals or simply an effort to blend in with the bold and the beautiful.

The trend is catching up with youngsters, especially those heading towards foreign destinations for study or leisure. If somebody thinks he or she was better off without tooth jewelry, it can be easily removed without any side effects on the dental tooth structure as the procedure is non-invasive. What's more, tooth jewelry can be fixed again at a later stage.

So now get ready to spice up your smile and get noticed in parties or any special occasion and besides all this, it costs a little more than peanuts!!!! ☺



Computer Aided Dentistry: A New Era of Dental Practice

In this era, the whole world is moving towards a solution to simplify dental procedures and make it less time consuming and they are being rendered possible by computer aided dentistry. It is an innovative method in which major procedural planning is done on the computer with software and the guide is prepared to ease the procedure of getting it done in a jiffy.

Today there is no dental procedure which cannot be pre-planned and treated through a guided procedure. For this, CBCT (Cone beam computed tomography) data, DICOM (Digital Imaging and Communications in Medicine) format and cast or dental model (The Standard Template Library file of cast for soft tissue simulation) are necessary.

In this article, I would like to present a few procedures which we have achieved through computer guided procedures.

Implantology

Computer aided Implantology is now a new practice; it is being done for quite some time. But there is always a question on the degree of accuracy of the procedures planned and performed through this method. We have done many cases, but presented here are two cases in which we performed virtual extractions and then prepared surgical guides.

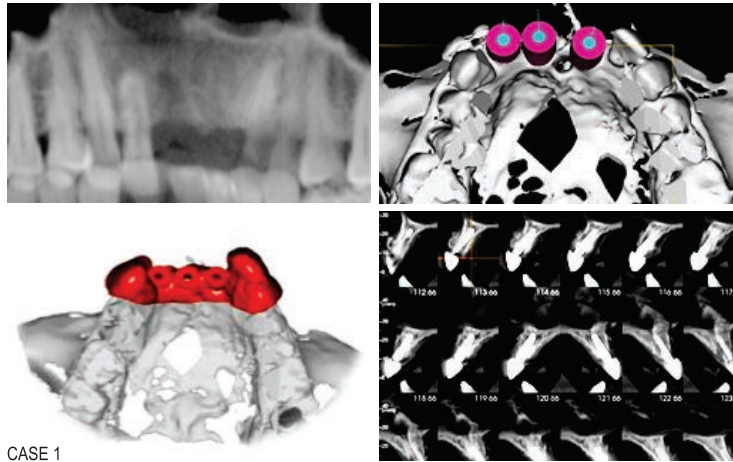
Examples

In Case 1, 11 and 21 were missing with internal resorption present in relation to 12. The dentist has planned for extraction of 12 followed by immediate implant placement in relation to 12, 11 and 21. CBCT data revealed a decrease in mesiodistal distance and proximity of the nasopalatine to the implant site.

Using DDS-Pro software, we superimposed cast STL file on CBCT DICOM



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CASE 1

data followed by virtual extraction in relation to 12 and implant placement in relation to 12, 11 and 21. The surgical guide was prepared on it, after confirmation from the dentist, with help of 3D printer. Then, the surgery was performed.

Post-operative CBCT was carried out. The result was accurate as it was planned.

In Case 2, a partially edentulous patient with existing prosthesis in the lower anterior region and multiple periodontally involved teeth was in need of treatment. Treatment plan was made to extract all the teeth followed by placement of four implants; two in the anterior region and the rest before the mental foramen. Similar procedure was followed with virtual extraction and guide preparation. Surgery was done with removal of all the teeth followed by stabilization of the guide by retentive screw. Post-operative Orthopantomogram (OPG) was taken to confirm the desired result.

Similarly, multiple cases have been done with or without extraction. Result of the guided surgery is basically dependent upon how accurate your patient records are; starting from CBCT till impression of the patient. Any error in this can lead to improper printing of the guide.

Ideal protocol also requires the presence of the prosthesis to perform prosthetically driven implantology.

Oral Surgery

Similar to implant guides, one can also prepare osteotomy guide to know where to do osteotomy in the patient. In ideal scenario, when any cosmetic surgery is planned, one can actually perform virtual surgery in the software followed by osteotomy guide preparation. In cases, where there are minimal chances for error, guides are like a boon to the surgeon. Orthognathic wafer is another possibility which can be designed digitally and printed and used during the surgery.

Endodontics

There is possibility to prepare a guide for the thinnest of the canal, and making the procedure as easy as possible. There is minimal tooth preparation to be done with direct access to the canal. This guide still requires much research to achieve the acceptance as a routine procedure.

Maxillofacial reconstruction

With the availability of the software which can produce the mirror image of normal part of the bone so that the diseased one can be operated and replaced during the surgery. The availability of Polyether ether ketone (PEEK) material makes it possible for any part to be printed and replaced; there have been many studies showing, post cancer rehabilitation done with PEEK material.

Orthodontics

Indirect bonding makes the bonding time as low as possible with preparation of surgical guide; initial time period of bonding is reduced to half and along with it the result has been very good according to the studies.

Conclusion

Computer Guided Dentistry is the next future of dentistry. There is limitation of the cost, but sooner or later with the growth of the 3D printing prices will come down. It is time to do more accurate, more planned and more rapid dental treatment. ☑



CASE 2

Habits that Wreck your Teeth



Dr. Isha Malhotra
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We want to be more attractive than what we actually are as an aesthetic appearance will elevate our self-confidence. Healthy and aligned teeth will enhance our smile and appearance as they have a significant role in making us look attractive.

Certain bad habits we develop stand in the way of keeping our teeth and gums healthy. Let us find out a little more about them.

Chewing on ice

It is natural and sugar free, so you might think ice is harmless. But munching on hard, frozen cubes can chip or even crack your teeth. If your mindless chomping irritates the soft tissue inside a tooth, regular toothaches may follow. Hot/cold foods may trigger quick, sharp jabs of pain or lingering toothache. If you feel the urge for ice, chew some sugarless gum instead.

Playing sport without a mouthguard

Whether you play football, hockey or any other contact sport, do not get into the game without a mouthguard. This is a piece of molded plastic that protects the upper row of teeth. Without it, your teeth could get chipped or even knocked down when the action gets rough. Self-fitting mouth guards may be purchased at a store or you can have one custom made by your dentist.

Bedtime bottles

It is never too early to protect teeth. Giving a baby a bedtime bottle of juice, milk or formula can put new teeth on a path to decay. The baby may become used to falling asleep with the bottle in his or her mouth, bathing the teeth in sugar overnight. It is better to keep bottles out of the crib.

Tongue piercings

Tongue piercings may be trendy but the metal stud can crack a tooth. Lip

piercings pose a similar risk. And when metal rubs against the gums, it can cause gum damage. The mouth is also a haven for bacteria, so piercings raise the risk of infections and sores. Therefore, discuss the health risks with your dentist first.

Grinding teeth

Teeth grinding or bruxism can wear teeth down over time. It can be caused by stress, anxiety, poor occlusion of teeth etc. It is often seen during sleep time. Wearing a mouth guard at night can prevent grinding while sleeping.

Cough drops

Just because cough drops are available freely, it does not mean they are healthy. Most are loaded with sugar. So after soothing your throat with a lozenge, make sure to brush your teeth well. Sugar from cough drops or a hard candy reacts with the sticky plaque that coats your teeth which makes the scenario worse. The bacteria in the plaque convert the sugar into acid that eats away the tooth enamel which finally results in cavities.

Gummy candy

All sugary treats promote tooth decay but some candies are harder to bear. Gummies sustain the sugar in the oral cavity for long term resulting in acid attack on enamel. Therefore, if you are fond of gummy critter, pop a couple during a meal instead of as a separate snack. More saliva is produced during meals, which helps rinse away candy bits and acids.

Soda

Candy is not the only culprit when it comes to added sugar. Sodas can have up to 11 teaspoons of sugar per serving. To add insult to injury, sodas also contain phosphoric and citric acids, which eat away the tooth enamel. Diet soft drinks are



devoid of sugar but they contain more acid in the form of artificial sweeteners.

Sports drinks

There is no doubt that a cold sports drink is refreshing after a good workout. But these drinks are usually high in sugar. Like soda or candy, sugary sports drinks create acid attack on the enamel of your teeth. Drinking them frequently can lead to decay. A better way to stay hydrated at the gym is to chug sugar-free, calorie-free drinks.

Opening things with your teeth

Opening bottle caps or plastic packaging with your teeth may be convenient but this is one habit that makes dentists cringe. Using your teeth as tools can cause them to crack or chip. Instead, keep scissors and bottle openers handy. Ensure that your teeth should only be used for eating.

Chewing on pencils

Do you ever chew on your pencil when concentrating on work or studies? Like crunching on ice, this habit can cause teeth to chip or crack. Sugarless gum is a better option when you feel the need to chew. It will trigger the flow of saliva which can make teeth

stronger and protect against enamel-eating acids.

Drinking coffee

The dark color of coffee and its acidity can cause yellowing of the teeth over time. Fortunately, it is one of the easiest stains to treat with various whitening methods. Talk to your dentist if you are concerned about discoloration of your teeth.

Smoking

Cigarettes as well as other tobacco products can stain teeth and cause them to fall out as a result of gum disease. Tobacco can also cause cancer of the mouth, the lips and the tongue. If you are looking for one more reason to quit, think of your smile.

Binge eating

Binge eating often involves excessive amounts of sweets which can lead to tooth decay. Binging and purging (Bulimia nervosa) can do even more damage to your dental health. The strong acids found in vomit can erode teeth making them brittle and weak. These acids also cause bad breath. Bulimia can lead to a variety of serious health problems. So be sure to talk to your doctor if you have been purging. ☐



Learning Disability

Brain has the amazing capacity to change children's responses and attitude. Early intervention and timely support, and encouragement will make a difference in such children



Dr. James Manihottam
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Learning disability is not a problem with intelligence or behaviour. It is a neurological disorder, often a difference or disability in the brain causing false processing of sensory information such as sight, hearing, understanding effects, communication or reception.

Such children need to pay close attention and often need help to do and learn besides finding difficulty in attaining academic and social skills. It is not because of cultural, economic or environmental factors, but due to numerous reasons. Instead of diagnosing or simply labelling the case, focus is required to support the child.

Learning disability may lead to behavioural disorders such as conduct disorder, depression, phobias, anxiety, neurosis, bipolar disorder, mental retardation, Attention deficit hyperactivity disorder (ADHD), autism etc. Factors influencing the above conditions are numerous; emotional trauma, fear or shock during pregnancy, family history of parents, genetic factors, foetal distress, brain morphology, Central Nervous System (CNS) infections, malnutrition, brain injury etc.

Signs and Symptoms

- These children have no organising thoughts in the brain. They often struggle with reading, writing, spelling and mathematics. Besides, there is lack of fluency in communication, greater tendency for misplacing letters while writing and reading, comprehension difficulties, no neatness or consistency in writing.

- Early detection by taking the feedback of milestones – walking, sitting, teething etc. and their subsequent analysis.
- Motor difficulty.
 - Fine motor skills - cutting, writing etc.
 - Gross motor skills - jumping, running etc.
- Inco-ordination in holding pencil, pen, buttoning, confused muscles and nerves refusing to obey the will, just like an interrupted telephone line.

Management of Learning Disability

Learning Disability can be easily identified and beautifully managed with holistic therapeutic approach.

Brain has the amazing capacity to change children's responses and attitude. Early intervention and timely support, and encouragement will make a difference in such children.

- Diagnose the type of Learning Disability.
- Study perspectives of the case.
- Build a relation with teacher or family doctor, and understand the school and home situation thoroughly.
- Catch them young, that is before or while doing preschool.
- Advocate a sense of humour in the child, support their creativity in allied fields, and keep their self-esteem. Avoid having endless paper work, learn along with play or advice to be practical in the daily routine more than emphasising on the theory or scolding. Here, the teacher, parents and doctor play an important role in keeping the child's rhythm of life.

Learning Disability: In various forms

- Dyslexia: Inco-ordination in processing language skills such as, reading makes



basic comprehension difficult as in the case of physical and mental skills such as writing, spelling, speaking etc.

- Dyscalcula: Difficulty in mathematics, time sense, money counting.
- Dysgraphia: Handwriting, misplaced letters, inconsistency in physical- and mental-spelling, difficulty in copying down etc.
- Dyspraxia: Sensory integration disorder - Hand-eye balancing.
- Auditory: Hearing.
- Visual: Sight.
- Poor Socio-emotional skills.

Diagnosis

- Case studying and observation at school and at home.
- Feedback from teachers,

paediatricians, parents, clinical psychologist, psychotherapist, speech therapist, occupational therapist and physio-therapist on motor skills.

- Analysis integration, sequencing abstraction-organisational skills at its different levels.
- Intelligence quotient/ Emotional intelligence test if necessary, in the case of ADHD, mental retardation (MR), Autism.
- Case Severity and its longevity.

Test

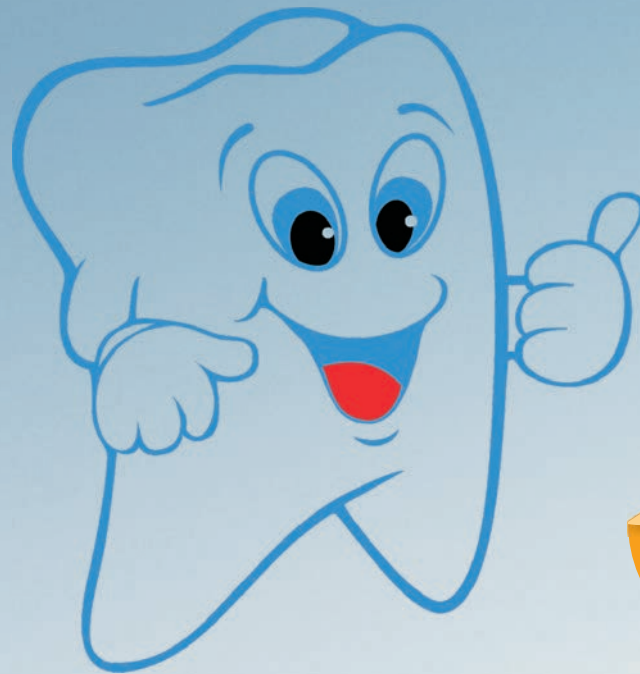
- Child behaviour checklist
- Coordination problems
- Behaviour ratings scales
- Neuropsychological evaluation
- ADHD index

Learning Disability can be easily identified and beautifully managed with holistic therapeutic approach

Treatment

Homoeopathic therapy requires detailed case study in each and every case and targets on changing the attitude of the whole personality in intellectual and emotional planes, besides constitutional level.

Here, the target is on holistic personality as a human being while remembering that earth's great treasure lies not only on academic records. Constitution, with deeper acting miasmatic remedy, well proven in human beings, will substantially improve the social and emotional skills along with learning disability. ☑



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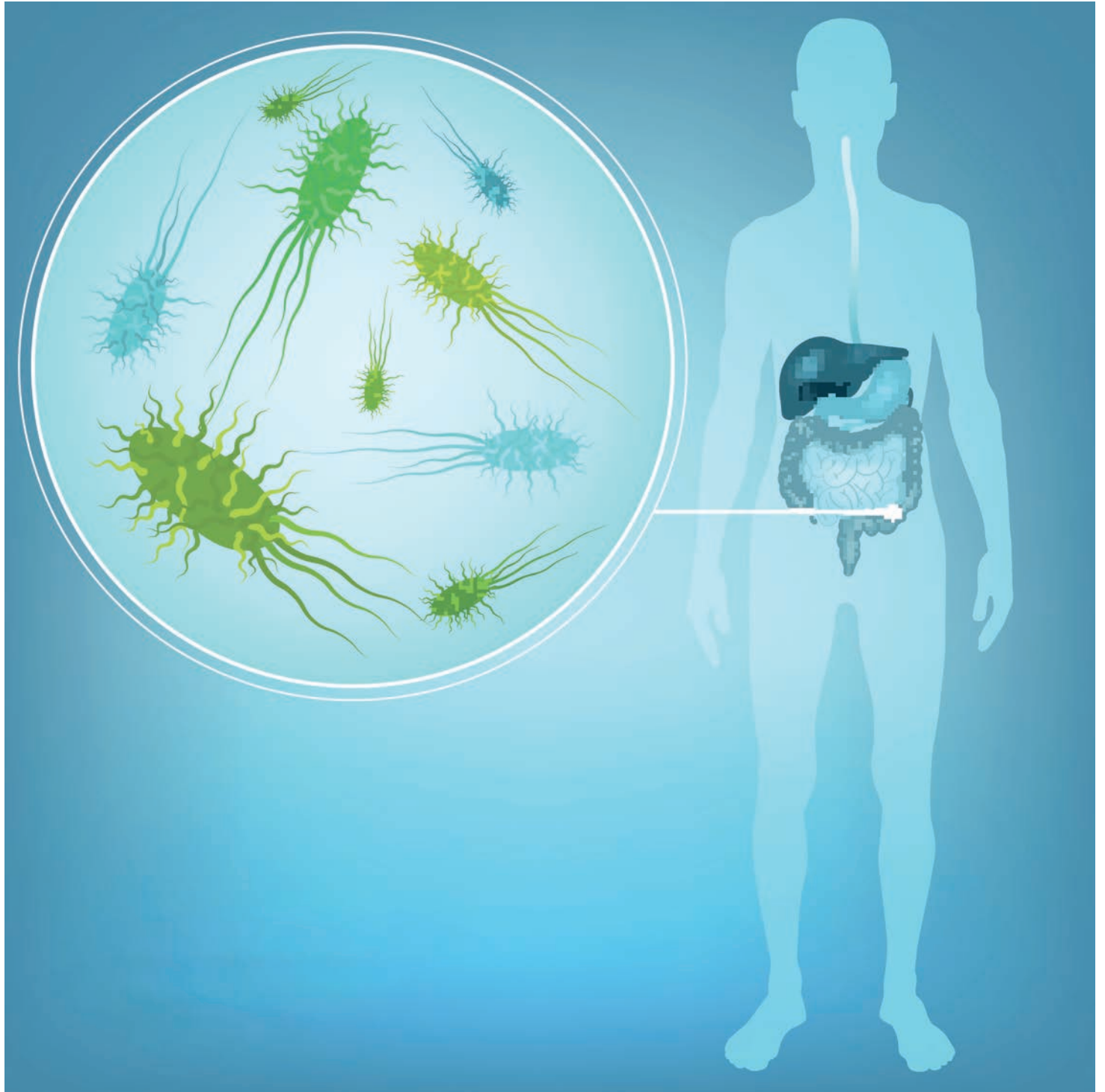
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TINY GUT MICROBES: Mysterious Human Health Guards



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The moment we hear the word “bacteria”, our response to it is “fear of getting infected and becoming sick”, as for most of us bacteria means **disease causing menace!**

So, it may be hard to accept that billions of bacteria present, within and on all of us, are beneficial and that they have profound influence on our health, both physical and mental. The current scientific information reveals that our health, weight, mood, and even our personality are all regulated by these tiny organisms that form our 'microbiota' or microorganisms.

Tiny gut cohabitants rule the day

A microbiota is defined as the community of microorganisms, including bacteria, archaea, viruses and some unicellular eukaryotes, living in a specific environment. Our microbiota makes up around seventy-five percent of our immune system and it influences not only immunity, but also our nutrition and behaviour. Our intestine houses more bacteria than any other part of our body, (approximately 1 kg is found mainly in the ileum and colon), that aid in digestion and guard against pathogenic microbes. One third of our gut microbiota is common to most people, while two thirds are specific to each one of us. In other words, the microbiota in our intestine is like

an individual **biological identity card**.

Bacterial clan and bonding

It is now known that over 500 different species of bacteria which colonize the human gut (stomach), belong to four dominant bacterial phyla – Firmicutes, Bacteroidetes, Actinobacteria and Proteobacteria. There are no good bacteria or bad bacteria; they live their own lives and their impact upon our lives depends on the kinds of circumstances. It is the type of bonding we have with our microbes that decide their beneficence!

Commensals are essentially bystanders, which increase the diversity of the environment; **symbionts** are our friends; and **pathobionts** that exhibits **parasitic relationship** are our foes. Crucially, our gut and our immune system have a friendly relationship and can usually recognise friends from foes.

Tiny partners – the health modulators

Gut microbes are considered as an acquired and essential organ of the human body. They have been associated with wide range of metabolic roles; starting from weight management, energy production, efficient digestion, absorption of nutrients, manufacture of certain vitamins, maintenance of both a strong and tolerant immune system, fat storage, angiogenesis (formation of new blood vessels),

regulation and behaviour development to genetic expression. Besides, every other day a new role is added to the list.

Gut bacteria is an important determinant of susceptibility to obesity and related metabolic diseases. The ratio of Firmicutes and Bacteroidetes has been found to be correlated to body weight, with the ratio being higher in obese people.

Gut bacteria form Trimethylamine (TMA) from dietary choline found in red meat, egg yolks, and high-fat dairy products, after its conversion into TMA N-oxide (TMAO) in the liver. As this compound aids in build-up of cholesterol in blood, chronically high TMAO levels are found to double the risk of heart attack, stroke and death. Studies show that levels of TMAO in our blood can help predict our risk of heart disease.

Our gut microbes decide what we would eat

Gut Microbes may also have an influence on our cravings and feelings of being full, after eating via their metabolic activities. Studies have found that changes in gut microbiota are associated with increased appetite and increased rate at which we store calories as fat. Thus, establishing a very direct connection between our gut and our ability to burn or store fat and regulate our body weight. A five-day study out of Harvard and Duke Universities shows that gut flora shifts in as little as one day!

Indians are using fermented foods in their daily diet; buttermilk use is dated back to 3000BC – that is since 5000 Years

Healthy Mind is a gift of gut friends

A good gut health makes us happy and more mentally stable. According to American Psychological Association (APA), gut bacteria produce an array of neurochemicals; for example 50 % of dopamine and 95% of serotonin, which the brain uses for the regulation of physiological and mental processes, including memory, learning and mood. Our mental health is closely linked to the quality and timing of our sleep. Now evidence suggests that the gut microbiota can influence sleep quality and sleep-wake cycles (our circadian rhythm).

Dynamic partners till our last breath

Microbiome is dynamic, it is ever-changing in response to our environment, starting from the air we breathe, food we consume and

dirt and germs we contact, people we touch, medicine we take and lastly the thoughts we have!

Researchers provide evidence that our gut microbes have been passed down from generation to generation, over millions of years, evolving right along with us. Our first dose of microbes comes from our mother. Babies who are born at home are exposed to different types of microbes than those born in hospitals and also by the type of delivery-vaginal or caesarean section. These very first differences-vaginal vs. caesarean section birth, home vs. hospital, may have even longer-lasting impacts on health.

By age three, a child's microbiome looks a lot like an adult's and it becomes much more stable. Major life events like puberty, pregnancy and menopause can cause larger shifts. Though events like illness, disease, antibiotic treatment, fever, stress, injury and changes in

diet, all can influence the shift, but the population still tends to shift back to a "baseline" state.

A recent study has found that certain bacteria such as *Streptococcus*, *Lactobacillus*, *Clostridium* etc. behave differently in men when compared to women.

Our microbes are "Healthy Diet" savvy

The good or symbiotic bacteria enjoy heaping platters on rainbow-colored vegetables, whole grains, legumes, nuts, seeds, fruits and vegetables. When we eat whole plant food, we feed our symbiotic bacteria.

"A healthy, varied, balanced, high-fibre diet with complex carbohydrates is good for the bacteria, living in your gut and encourages a diverse ecosystem," says Elizabeth Hohmann of the Infectious Diseases Division at Harvard-affiliated Massachusetts General Hospital.





She also suggests other helpful dietary choices, including naturally fermented foods containing probiotics (live bacteria) such as, sauerkraut, pickles, miso, certain types of yogurt and kefir—a yogurt-based drink.

Change in health guards' strength impairs host health

The colonization of gut bacteria is influenced by many factors such as the living environment and diet.

Diets high in animal protein, processed foods, especially flours and simple sugars tend to raise the numbers of potentially harmful bacteria—perhaps, in part, because such excesses tend to

upset the natural acid-alkaline balance of our bodies. “The problem is that, the human digestive system has not changed in thousands of years, but our diet has shifted dramatically,” says Gregor Reid, Professor of Microbiology, Immunology and Surgery at the University of Western Ontario in Canada.

Excessive sugar, honey or artificial sweetener consumption tend to encourage harmful organisms' overgrowth (dysbiosis). Diet-induced dysbiosis causes disease susceptibility, including IBD (Inflammatory Bowel Disease), diabetes and obesity, as well as contributes to the development of cancers such as, gastrointestinal cancer and prostate cancer.

A significant proportion of faecal mass consists of bacteria with an estimated combination of dead and living bacteria of approximately 25–54% of dry solids. So consuming healthy gut microbe friendly diet would ensure that the microbes are burgeoning and maintained.

Research on Gut Microbes: Eaves dropping the whispers – Last hope to unravel the mystery

The National Institutes of Health (NIH) Common Fund Human Microbiome Project (HMP) was established in 2008, with the mission of generating resources that would enable the comprehensive characterization of the human microbiome and analysis of its role in human health and disease.

Research suggests that the microbiome plays a role in determining everything from weight to behaviour, but there is much we still do not know. Because, while there is still much we need to know, it is safe to assume that a healthy gut is connected to healthy habits. As of now, take care of your health and your tiny partners, through healthy nutrition and life style, to stay healthy till your last breath.

The current scientific dietary life style suggestions to stay healthy through our tiny health guards:

- ⊙ Eat a whole food based diet that includes good sources of fibre (eg. legumes, greens, whole grain cereals)
- ⊙ Consume at least 30 different plant foods each week to introduce diet diversity
- ⊙ Avoid intake of highly processed foods
- ⊙ Avoid artificial sweeteners ☒

Burning Mouth Syndrome

Burning mouth syndrome (BMS) is a condition causing a continuous burning sensation of the mucosa of the mouth, typically involving the tongue, the lips and the oral mucosa. It occurs most commonly in peri-menopausal and post-menopausal women. Women are 3-7 times more likely than men of similar age, to experience BMS symptoms. It is rarely observed in patients below the age of 30.

Symptoms

The main symptom of BMS is pain in the mouth that is burning, scalding or tingling. Other symptoms include dry mouth or altered taste in the mouth. It is a painful condition. Usually, the tongue is affected, but the pain may also be in the lips, roof of the mouth or throughout the mouth.

BMS pain can last for months or years. Some people feel constant pain every day. For some others, pain increases throughout the day. For many people, the pain decreases while eating or drinking.

Causes

The causes of BMS can be classified as either primary or secondary.

Primary burning mouth syndrome

When no clinical or laboratory abnormalities can be identified, the condition is called primary or idiopathic BMS. Some research suggests that primary BMS is related to problems with taste and sensory nerves of the Peripheral or Central Nervous System.





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Secondary burning mouth syndrome

Sometimes BMS is caused by an underlying medical condition. In such cases, it is called secondary BMS. Underlying problems that may be linked to secondary BMS include:

- **Dry mouth (Xerostomia)** which can be caused by various medications, health problems, problems with salivary gland function or the side effects of cancer treatment.
- **Other oral conditions**, such as a fungal infection of the mouth (oral thrush), an inflammatory condition called oral lichen planus or a condition called geographic tongue that gives the tongue a map-like appearance.
- **Nutritional deficiencies**, such as lack of iron, zinc, folate (vitamin B-9), thiamine (vitamin B-1), riboflavin (vitamin B-2), pyridoxine (vitamin B-6) and cobalamin (vitamin B-12).
- **Dentures**, especially if they do not fit well, can place stress on some muscles and tissues of your mouth, or if they contain materials that irritate the mouth tissues.
- **Allergies or reactions** to food, food flavouring / additives, fragrances, dyes or materials related to dental work.
- **Reflux of stomach acid (gastroesophageal reflux disease or GERD)** that enters

your mouth from your stomach.

- **Certain medications**, particularly medications to treat high blood pressure.
- **Oral habits** such as tongue thrusting, biting the tip of the tongue and teeth grinding (bruxism).
- **Endocrine disorders**, such as diabetes or those related to the thyroid (hypothyroidism).
- **Excessive mouth irritation** may result from over brushing of your tongue, use of abrasive toothpastes, over use of mouthwashes or intake of too many acidic drinks.
- **Psychological factors** such as anxiety, depression or stress.

Diagnosis

History is the cornerstone of diagnosis. Although BMS is a diagnosis of exclusion, several elements are supportive:

- Bilateral mouth discomfort (burning/pain)
- Pain deep in the oral mucosa
- Symptoms present for at least 4-6 months
- Xerostomia
- Dysgeusia (Distortion of the sense of taste)
- Symptoms that are nearly constant throughout the day

- No clear precipitating factors
- Symptoms alleviated or aggravated by drinking/eating
- Mood or personality disruptions

BMS is hard to diagnose. One reason is that people with BMS often do not have a mouth problem that the dentist can detect during an oral examination. The dentist will review your medical history and examine your mouth. A lot of tests may be needed which include:

- Blood tests to check for certain medical problems
- Oral swab tests
- Allergy tests
- Salivary flow test
- Biopsy of tissue
- Imaging tests

Treatment

Medicine can help control pain and relieve dry mouth. Since BMS is a complex pain disorder, the treatment that works for one person may not work for another. Symptoms of secondary BMS go away when the underlying medical condition, such as diabetes or yeast infection, is treated.

To help ease the pain of BMS, sip cold beverages, suck on ice chips or chew sugarless gum.

Dentures, especially if they do not fit well, can place stress on some muscles and tissues of your mouth, or if they contain materials that irritate the mouth tissues

Avoid irritating substances, such as;

- Tobacco
- Hot, spicy foods
- Alcoholic beverages
- Mouthwashes that contain alcohol
- Products high in acid, such as citrus fruits and juices

Currently, no definitive cure exists. Many treatments have been tried with variable success. Attempting combinations of therapies may be appropriate; in particular, cognitive therapy may be synergistic with other agents. Additionally, it may be worth empirically treating for other conditions that cause secondary BMS based on the nature of symptoms or examination findings.

The following treatments for Primary BMS have been suggested with variable evidence to support their use:

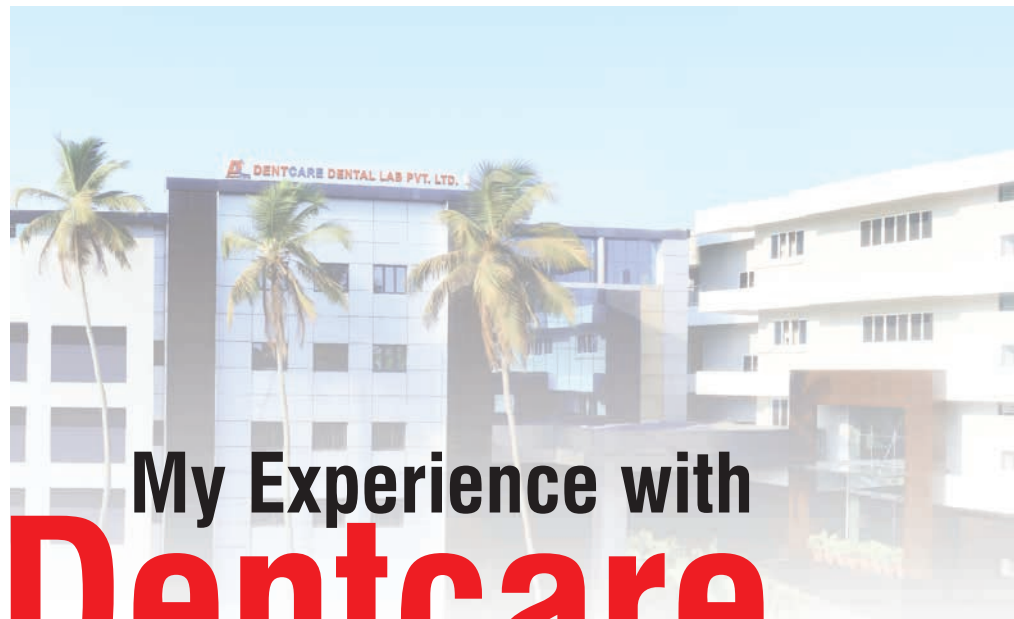
- Clonazepam (low-dose) dispersible wafers (may be better than tablets).
- Alpha-Lipoic acid.
- Intermittent oral/topical capsaicin.
- Psychotherapy (cognitive behavioural modification, relaxation).
- Hormone replacement therapy.
- Serotonin-specific reuptake inhibitors (SSRIs).
- Tricyclic antidepressants.
- Oral Lidocaine.
- Laser therapy.
- Topiramate.
- Olanzapine.
- Acupuncture.



To help ease the pain of BMS, sip cold beverage, suck on ice chips, or chew sugarless gum

Treatments for Secondary BMS include the following:

- ❑ Discontinuation of medications that may cause xerostomia, such as anticholinergics or psychotropics.
- ❑ Substitution of medications that may cause oral burning (for example, if an Angiotensin converting enzyme (ACE) inhibitor, Angiotensin receptor blockers (ARB) or antiretroviral drug is suspected to be the causative factor, trying another medication in the same class is reasonable).
- ❑ Adjustment of Levothyroxine dosing.
- ❑ Oral Nystatin.
- ❑ Abstinence from smoking and oral tobacco use.
- ❑ Avoidance of allergens.
- ❑ Adjustment of dentures (refitting and/or substituting materials).
- ❑ Chewing sorbitol-containing gum to stimulate saliva.
- ❑ Pyridostigmine, Pilocarpine or other sialogogues.
- ❑ Vitamin B supplementation.
- ❑ Zinc supplementation.
- ❑ Iron supplementation.
- ❑ Folate supplementation.
- ❑ Neuropathic analgesics. ☒



My Experience with **Dentcare**



Dr. P. K. Jayakrishnan
Dental Practitioner
Cheruvathur, Kerala, India

“**My search for a dental lab with certified dental technicians which assured adequate quality of work ended up in one name—DentCare Dental Lab**”

I began my humble practice in the small and picturesque town of Chervathur in Kasargod District of Kerala in 1998. It was a time when dental offices were not many in number and most of them were located in urban or suburban areas.

It was also a time, when extractions constituted a substantial proportion of the various procedures done in a day's work at the dental office. Though prosthetic work was considerably lesser in those days, they were important and exacted the service of a skillful dental technician.

There was scarcely any dental lab close-by to provide for the kind of quality work I looked for. My search for a dental lab with certified dental technicians which assured adequate quality of work ended up in one name—DentCare Dental Lab.

There was no looking back since. I have had a strong and long-lasting affair with DentCare since then.

A complete professional attitude, serious considerations of the doctor's lab instructions and above all, the fine quality of work are the attributes of DentCare that lured me initially.

The last two decades have witnessed a paradigm shift in the oral health awareness of the public and their perception towards dentistry. As a result, preservation of teeth in the form of Root Canal Treatment and rehabilitation of missing teeth in the form of crowns and bridges, and new forms of dentures have gained acceptance than ever before.

Esthetic perceptions of society have changed and more patients are seeking treatment for malaligned teeth. Also, autonomy of the patient has superseded paternalism, which was not the case earlier.

Dental practitioners of these days have imbibed these changes. DentCare has not only subsumed these changes but also has kept themselves abreast with all developments and advancements in dental science and technology.

I have no hesitation in saying that I have been introduced with new products used in various treatment modalities by the representatives of DentCare or through CDE programs sponsored by them.

Prompt services and polite clarification of doubts are certain things I have noticed over the years, which has enhanced my relationship with the Lab. Their telephonic etiquette is worth a mention at this point.

I would like to end this write-up with a modified version of a very popular maxim—**“Behind every successful dentist is DentCare Dental Lab”**. ☺

Lyophilized PRP for Clinical Applications

P Regenerative medicine and dentistry is rapidly becoming the upcoming scientific field which encourages regeneration of tissue rather than ablative surgical procedures. A part of this mechanism is brought about by tissue engineering.

Under the tissue engineering principles, the bony defect in the jaws is being regenerated in extracted sockets for implant placement, for treatment of intra bony defects as well as pathological defects of the jaws. For the tissues to be regenerated, we need cells and growth factors. The most important cocktail of growth factors now used and practiced in

dentistry is from platelet rich plasma (PRP) or from platelet rich fibrin (PRF).

There are many studies that confirm that growth factors are playing a vital role in injury

Lyophilisation is a dehydration process typically used to preserve a perishable material or make it more convenient for transport

recovery, healing of wound, in bone regeneration etc. Though there are reported positive results with PRP, few studies on PRP have demonstrated limited positive clinical results. The reports of says that ordinary centrifuge to develop PRP, which are mainly developed for diagnostic purposes are not for PRP processing and hence may not produce a sufficient platelet yield.

Autologous PRP

Use of PRP in an autologous form is practiced in many parts of the world for bone regeneration. Even though few randomised studies showed positive results with autologous PRP, many trials are not encouraging. Since then people switched to PRF applications. Failures of autologous PRP are due to the following reasons.

- ⊙ PRP has to be activated with bovine thrombin or calcium chloride. The bovine thrombin can produce anaphylactic reactions.
- ⊙ PRP preparation is not based up on the quantification of the growth factors from the patients' collected blood sample. Also it cannot be practically possible in the present form.





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 Maxillofacial Surgeon
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Prof. Dr. S. Sankaranarayanan
 Consultant Oral and Maxillofacial
 Pathologist
 Trichy, Tamil Nadu, India

- ⊙ PRP should be activated before use
- ⊙ Cannot be stored for multiple applications
- ⊙ May not get adequate amount of growth factors from diseased patients
- ⊙ Costly affair

Lyophilised PRP (Off the shelf PRP)

Platelet-rich Plasma (PRP) is a concentrate of platelet-rich plasma protein derived from whole blood, centrifuged to remove red blood cells (RBCs). Freeze-drying is technically known as Lyophilisation or Cryodesiccation. It is a dehydration (dry by freezing in a high vacuum) process typically used to preserve a perishable material or make it more convenient for transport. Pharmaceutical companies often use freeze-drying to increase the shelf life of the

-
- ⊙ There is lot of variation in the growth factors depending upon the age and gender.
 - ⊙ We need to optimise the level of growth factors (proteins) for osteoblast or fibroblast multiplication. Overdose or underdose of growth factors do not produce any clinical outcome or suppress the growth of cells. So dose and type of growth factors play an important role in curing or reversing the pathology.
- So the limitations of autologous PRP in the present form are as follows:
- ⊙ Need a sophisticated centrifuge (Most clinics use the diagnostic type)
 - ⊙ Need trained paramedical staff and lab facility/ technicians
 - ⊙ Preparation is not yet standardised
 - ⊙ Blood should be obtained from the individual

products, such as vaccines and other injectables.

Lyophilised PRP is done after activation of platelets. Activation of this product is by freeze thawing method thereby breaking the platelet membrane and thus growth factor is released. By this method of activation, there is no addition of external factors like calcium chloride or xenobiotic compounds like bovine thrombin. Once activated the sample is freeze dried and the dried powder is sent for sterilisation and quantified for the growth factors present in them.

Advantages of Off the Shelf PRP (Powder)

- ⊙ No allergies
- ⊙ Longer shelf-life
- ⊙ Colour-slight yellow
- ⊙ Instantly dissolves in sterile or saline water
- ⊙ Already sterilised and devoid

of blood pathogens (HIV/ HBsAg/ HCV etc.)

- ⊙ Anti-inflammatory
- ⊙ Haemostatic
- ⊙ Osteoinductive–Enhances osseointegration of implants
- ⊙ Quality and quantity cross checked with preparation
- ⊙ Adequate amount of growth factors are present
- ⊙ Dosage can be determined
- ⊙ Can be stored for multiple applications and longer duration
- ⊙ Can reduce or avoid drugs
- ⊙ Readily available for off the shelf use

Already available lyophilised human allogenic plasma product for clinical use in the global market

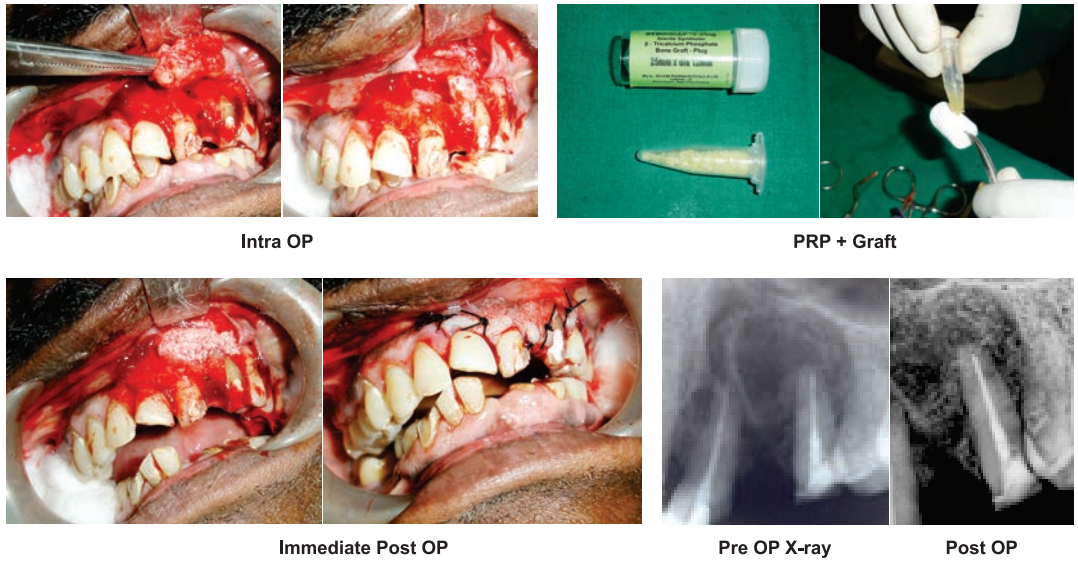
- ⊙ **LYOPLAS-N** (Zentralbereich Plasma, Germany)

⊙ **PLYO** (French Lyophilised Plasma, Department of Defence, France)

⊙ **PRP Powder** (Institute for Transfusion Medicine, University of Rostock, Germany)

Dental application of PRP-Powder

- ⊙ Haemostasis
- ⊙ Periodontal bone regeneration
- ⊙ Mandibular 3rd molar removal
- ⊙ Enhances soft tissue and bone regeneration
- ⊙ Osteoinduction-enhances osseointegration of implants
- ⊙ Graft with PRP-P
- ⊙ Facial rejuvenation
- ⊙ Medically compromised patient
- ⊙ Pregnant patient



Application of PRP in Cyst

- ⊙ Periapical surgery
- ⊙ Pulpotomy agents in primary tooth

Medical applications of PRP powder

Orthopedics

- ✦ Osteoarthritis
- ✦ Rotator cuff tears
- ✦ Chronic plantar fasciitis
- ✦ Ligament injuries
- ✦ Pelvic pain and instability
- ✦ Back and neck injuries
- ✦ Elbow and ankle sprains
- ✦ Tendonitis
- ✦ Bone repair and regeneration
- ✦ As an adjuvant in cell based therapy

Vascular complications

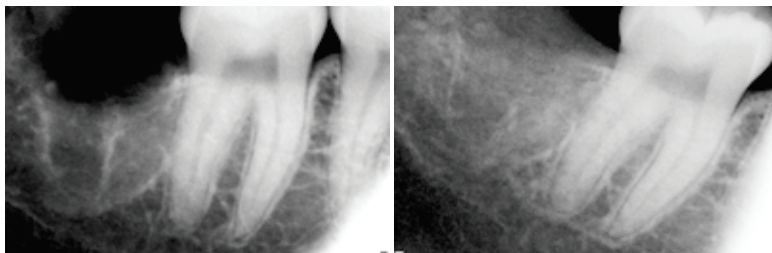
- ✦ Chronic ulcers
- ✦ Diabetic foot
- ✦ Diabetic neuropathy

Cosmetics

- ✦ Vampire face lifting



It prevents post operative edema & pain



Pre OP X-ray

Post OP X-ray 3 Months

- Enhances bone regeneration
- Patient will not have sensitivity

Application of PRP Powder After removal of impacted 3rd molar

- ✦ Skin rejuvenation
- ✦ Active acne and scar revision
- ✦ Adjuvant in Laser toning
- ✦ Adjuvant in pigmentation treatment
- ✦ Blemish treatment

Conclusion

PRP is being used for a variety of treatments in the medical and dental field. But in many cases due to improper administration (without following proper procedure), it has led to wide spread failure in treatment.

Autologous preparation of PRP has also proved to be time consuming, costly and less effective. It is also not possible to quantify the content of different growth factors during the procedure. Similarly, when quality centrifuging facility is not available, the procedure is less effective.

To increase the probability of success, it is essential to lyophilize PRP and quantify the same. Lyophilisation aids in quantification of various growth factors in PRP, increases its life span, reduces cost and improves sterility. This helps the availability of Off-the-shelf growth factors with cheaper price. ☑





KIWI FRUIT

A Powerhouse of Vitamins and Minerals

Consumption of fruits and vegetables is associated with a reduced risk of heart disease, diabetes, cancer and other conditions.

Studies have shown that increased consumption of Kiwi fruit decreases the risk of obesity and overall mortality. Kiwi fruits contain a number of nutrients like Vitamins C, K, E, folate and potassium in addition to antioxidants. Their small black seeds and brown peel are also edible.

Health benefits of Kiwi fruit

Healthyskin

Vitamin C and E contained in the fruit help prevent damage caused to the skin by sunrays, pollution and smoke thereby removing wrinkles and improving

overall skin texture.

Better sleep

Eating two fruits one hour before bedtime helps people nod off quickly and sleep more soundly. It could be linked to high antioxidant and serotonin levels in the fruit.

Helps fight heart disease

Kiwi fruit has the anticlotting benefits. Hence, eating 2 to 3 fruits a day will reduce the potential of blood clotting by 18 percent and reduce triglycerides by 15 percent.

Helps eliminates toxins

The fuzzy fibre of Kiwi fruits helps bind and eliminate

toxins from the intestinal tract.

Lowering blood pressure

High level of potassium in kiwi fruits helps keep our electrolytes in balance by counteracting the effects of sodium and helps reduce high blood pressure.

Prevents constipation

Numerous studies have shown that Kiwi fruits have a mild laxative effect and could be used as a dietary supplement, especially for individuals experiencing constipation.

Good for hair

Vitamins C and E in the fruit help fight hair loss and maintain hair health. It contains minerals like magnesium, zinc and phosphorus that stimulate blood circulation, thereby accelerating growth of hair.

Protecting DNA from damage

The unique combination of antioxidants in Kiwi fruit helps protect DNA from oxidative damage.

Boosts your immunity

High level of vitamin C content along with other antioxidant compounds in the fruit helps boost the immune system. ☑

Be careful

Even though Kiwi fruit has many health benefits, over consumption may lead to health issues like allergic reactions, dermatitis, stomach and pancreatic problems.



An Autonomous Robot that Drives and Flies

Brandon Araki, a roboticist at the Massachusetts Institute of Technology's Computer Science and Artificial Intelligence Laboratory along with his colleagues have developed a quadcopter, an unmanned helicopter having four rotors that can both drive and fly autonomously.

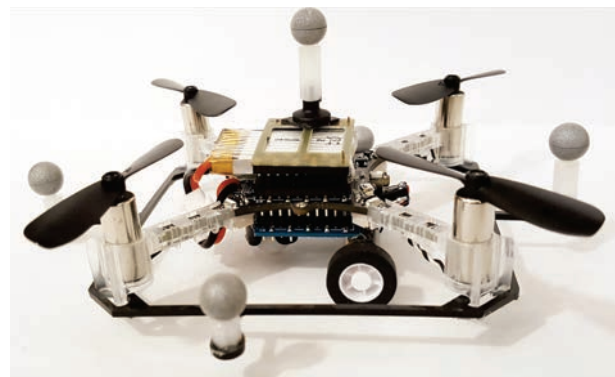
Earlier, they developed a robot that could fly and grasp items. But it could not find safe routes by itself; the researchers had to program its paths.

Now, these scientists have developed flying robots that can both fly and drive through a simulated city-like setting that has parking spots, landing pads and no-fly zones. These robots can move / fly autonomously without colliding one another.

In simulation, all flying cars navigated the destination smoothly, without colliding one another.

In driving, these cars seem to be relatively more efficient; but in flying less efficient due to the added weight.

The scientists detailed their findings on June 1st at the Institute of Electrical and Electronics Engineers' International Conference on Robotics and Automation in Singapore. ☑



Can Epilepsy be Treated Successfully?

Epilepsy is a change in normal brain activity where there are abnormal discharges occurring in the brain cells. This manifests as abnormal movements in the body and person with seizures can lose consciousness.

Epilepsy can be controlled successfully by different treatment modalities. The most common treatment options for epilepsy are:

Anti-epileptic drugs

They are medicines that limit the spread of seizures in the brain. A doctor preferably a neurologist

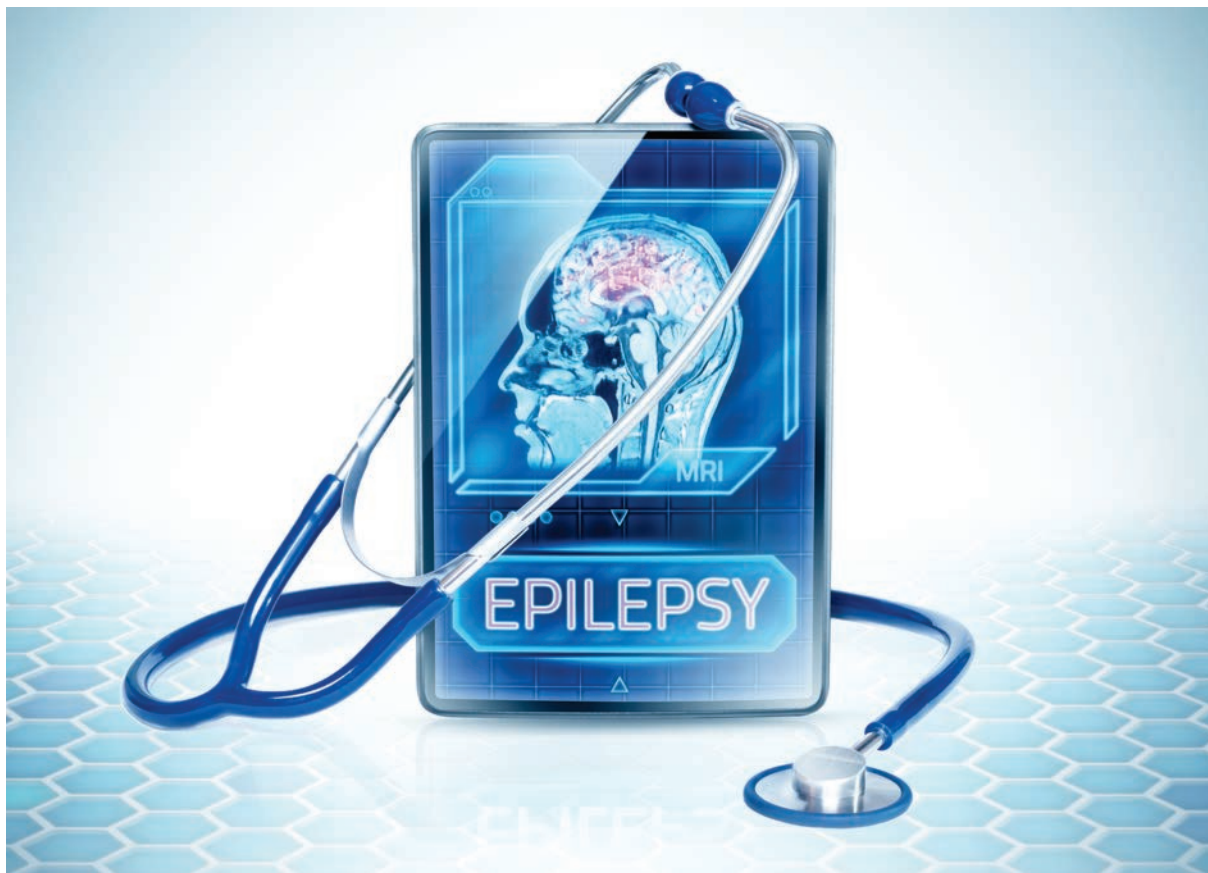
decides the drug based on the type of seizures or epilepsy. A “one size fits all” approach, which means each epilepsy responds to a particular drug or a group of drugs in the same category, is not acceptable. So, one cannot choose the wrong drug which can even worsen the epilepsy.

When it comes to treatment of epilepsy, there are more than 20-25 drugs available in the market at a given point of time. One can start with a single drug which controls epilepsy in a good majority of cases and if not controlled, more than one drug can be tried. If the

treatment with one drug, which is called monotherapy fails, one can go for two or three drugs in a combination.

Surgery

When seizures come from a single area of the brain (focal seizures) and if such seizures remain refractory to a minimum of two drugs tried singly or in combination for a period of at least two years, which is then called medically refractory epilepsy or drug-resistant epilepsy, the person with epilepsy can be referred to higher centers where facilities for surgery





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are available. The aim of surgery is to remove that focal area to stop future seizures or make them easier to control with medicine.

Other treatment options

When medicines do not work and surgery is also not possible, other treatments can help. These include *vagus nerve stimulation*, wherein an electrical device is placed or implanted under the skin on the upper chest to send signals to a large nerve in the neck to bring down seizures.

Another option is the *ketogenic diet*, a high fat, low carbohydrate diet with limited calories.

How should I go about it? Who is the best doctor I can approach?

Many kinds of health providers treat people with epilepsy. Primary care providers, such as family Physicians and Pediatricians are often the first people to see a person with epilepsy. These providers may make the diagnosis of epilepsy or they may talk with a Neurologist (a doctor who specializes in diseases of the brain and nervous system) or Epileptologist (Neurologist with special expertise in epilepsy).

People who have seizures that are difficult to control or who need advanced care for epilepsy may be referred to an Epilepsy Center. In such Centers, there are a group of people working as a team specialized in epilepsy care such as Epileptologists and Neurosurgeons, Nurses, Psychologists,

Technicians, Psychiatrists, Occupational and Vocational Rehabilitation Experts etc.

There are several ways you can find a Neurologist or an Epileptologist near you. Your Family Care Provider can tell you about types of Specialists. A list of such centers in India and abroad is available for the common man on the internet with relevant details of the services provided by them.

What can a person with Epilepsy do to manage his/her Epilepsy?

Following are the Do's and Don'ts in Epilepsy care:

- Take one's medicine regularly
- Talk with your doctor, when you have questions in your mind

- Recognize triggers of seizure (such as lack of sleep, alcohol etc.)
- Keep a record of your seizures
- Get enough sleep
- Contact a Higher centre specialized in epilepsy, if seizures remain uncontrolled with medicines

Are there special issues in women with Epilepsy?

Women who have epilepsy face special challenges. Hormonal changes can cause some women with epilepsy to have more seizures during their menstrual cycles.

For women with epilepsy, there are also special concerns during pregnancy, because antiepileptic drugs during this period may cause side effects in the baby. If you are a woman with epilepsy who plans to get pregnant, talk with your health team about how best one can take care of yourself and your baby. In majority of cases, one can have a safe pregnancy and delivery with proper guidance and follow-up.



What does the word "psychosocial" mean? Do people with Epilepsy have psychological issues?

The term "psychosocial" includes how you feel about yourself, how you deal with the stress of a chronic disorder like epilepsy and issues involving your relationships with family, friends or co-workers. People with epilepsy may be embarrassed or fearful about their seizures and they may have to face the ignorance and fear of other people.

To treat epilepsy, in terms of seizure reduction alone, is inadequate; the associated psychological stressors also need to be addressed. Some people work through these issues on their own while others may need some help from a Physician, a Nurse or a Professional Counselor to deal with them effectively. Family support is integral in dealing with these issues.

How do I tell other people about my Epilepsy?

Have a positive attitude about yourself. Epilepsy is only one of the

several illnesses commonly seen in the community in any part of the world. There is nothing to be ashamed of in other people knowing, that one has epilepsy.

Whenever possible, choose a comfortable place and enough time to keep you away from feeling anxious or rushed when you talk about your seizures. It may be helpful if you have written material available with you about epilepsy to share with other people and dispel their misconceptions.

Can a person with Epilepsy lead a normal life?

It is understandable that you feel that way. Epilepsy does interfere with certain aspects of life, especially when you are dealing with poor seizure control. Taking medication daily, having regular tests and keeping seizure records are time consuming and a frequent reminder of a chronic disorder.

For some people, there are more difficult restrictions, such as inability to drive or make certain career choices. But, we have to be practical when facing such difficulties and remember that

Think of creative ways to solve the problems in your life; such as sharing your problems with friends

with proper treatment this illness can be cured, including several other illnesses which prohibit us from doing whatever we want to do in our life. Focus on what you can do in life rather than getting frustrated over the very few things which you have to give up in life because of any illness, of which epilepsy is just one.

Seizures are unpredictable and may limit some of your independent activities. Other family members and friends may be concerned and overprotective and as a result, you may feel dependent.

Realistically, some people with epilepsy may have to depend on others to help with certain tasks of daily life. Try to be cheerful and positive in your attitude with your own effort; it helps focus on your abilities rather than defining yourself by your restrictions. Think of creative ways to solve the problems in your life; such as sharing your problems with friends, learning about public transport options if you cannot drive etc. At the same time, you need to be realistic about the problems.

Talk with your family and friends about these issues and your feelings. Insist that you need to be involved in the plans and decisions which affect your life. And do not hesitate to ask for help if you need it, including professional counseling. Always remember that any person in society can have similar problems, as you are facing. ☒



DentCare Reconnect



Lab Tour by Pre-eminent Scientists from Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram



IDA Chennai Branch in association with DentCare @ Hyatt Regency, Chennai on 11th June 2017

**CDE Program
on DentCare
Clear Aligners**



Viral Hepatitis B and C in Dental Practice

Prevention of Hepatitis B and C transmission through the medical care setting is an important public health issue. The aim of the present review is to increase the awareness among dental practitioners, so as to reduce the burden of Hepatitis in their community



Dr. Charles Panackel
Consultant in Hepatology and
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Kochi, Kerala, India

Hepatitis B and Hepatitis C are the leading causes of liver cirrhosis and liver cancer in the world. Viral hepatitis accounts for 1.45 million deaths every year. India has the intermediate endemicity of Hepatitis B, with Hepatitis B surface antigen prevalence between 2% and 10% among the population studied.

The number of carriers in India has been estimated to be over 40 million. Globally, an estimated 71 million people have chronic hepatitis C infection. Approximately 3,99,000 people die every year from Hepatitis C, mostly from cirrhosis and hepatocellular carcinoma.

Health-care workers have an occupational risk of infection with Hepatitis B virus (HBV) and Hepatitis C virus (HCV). It has been estimated that 14.4% and 1.4% of hospital workers are infected with HBV and HCV, respectively.

The frequency of exposure to HBV was the highest among dental healthcare workers, according to a study conducted in Japan. HBV and HCV are transmitted by needle

stick injury with infected and contaminated needles as well as syringes or through direct or indirect contact with blood, oral fluids, droplet splatter, aerosols etc.

Prevention of Hepatitis B and C transmission through the medical care setting is an important public health issue. The aim of the present review is to increase the awareness among dental practitioners, so as to reduce the burden of Hepatitis in their community.


The Virology

Hepatitis B virus (HBV) is a hepatotropic DNA virus belonging to the Hepadnaviridae family. Hepatitis C Virus (HCV) is a glycoprotein enveloped single stranded RNA virus.

HBV is present in blood, semen, cervico-vaginal secretions, saliva and other body fluids. Risk of HBV infection is highly correlated with HBV DNA level and presence of HBeAg (Hepatitis B e-antigen).

Modes of transmission of HBV are

- ⊙ Blood borne-Transfusion of blood/ blood products, injection of drug users, hemodialysis recipients, health care and other workers exposed to blood.
- ⊙ Sexual transmission.
- ⊙ Percutaneous or permucosal transfer-needle stick accidents, reuse of conta-

The image is a composite graphic with a red-to-blue gradient background. In the upper left, a large, realistic liver is shown. To its right, a syringe is depicted with a needle pointing upwards. Below the liver, a spherical virus particle with numerous spikes is visible. In the upper right, several pills of different colors (purple, white, blue) are scattered. In the lower right, a healthcare worker is shown from the chest up, wearing blue scrubs, a green surgical cap, a white face mask, and blue nitrile gloves. The worker is holding a metal instrument with a white circular tip. The overall composition suggests a medical or healthcare context, specifically related to infection control and occupational health.

Health-care workers have an occupational risk of infection with Hepatitis B virus (HBV) and Hepatitis C virus (HCV). It has been estimated that 14.4% and 1.4% of hospital workers are infected with HBV and HCV, respectively

minated medical equipment, shared razor blades, tattoos, acupuncture, body piercing and shared toothbrushes.

- ⊙ Mother to infant transmission.

No risk factor can be identified in 25% cases.

HCV predominantly spreads via the blood borne route (recipients of blood or blood products, hemodialysis, drug abusers, tattooing and body piercing, and health care workers). Mother to child transmission and sexual transmission can also occur, but at a low frequency. No risk factor is identified in 10% of cases of HCV infection.

Clinical features

Acute Hepatitis B infections are heralded by a serum sickness–like prodrome of fever, arthralgia or arthritis, and rash, followed by manifestations of liver disease (jaundice, vomiting, anorexia). Chronic HBV infection is defined by the continued presence of HBsAg in the blood for longer than six months. Long standing Hepatitis B leads to cirrhosis and liver cancer.

Acute Hepatitis C is rarely seen in clinical practice because almost all cases are asymptomatic. Chronic Hepatitis C is defined by presence of HCV RNA in blood for more than six months. Chronic Hepatitis C occurs in 45% to 90% of cases. Chronic HCV

Hepatitis B is a vaccine preventable infection. All health care workers should be vaccinated against Hepatitis B

infection, if not treated, progresses to cirrhosis and liver cancer.

Oral manifestations of Hepatitis B and C infection

Manifestations in the oral cavity include lichen planus, Sjögrens syndrome, and sialadenitis; some forms of oral cancers may also be seen. Cirrhotic patients may have coagulopathy and thrombocytopenia. Coagulopathy can manifest as petechiae or excessive gingival bleeding with minor trauma. This is especially suggestive, if it occurs in the absence of inflammation.

Diagnosis of Hepatitis B and Hepatitis C

To diagnose Hepatitis B, blood needs to be checked for the HB surface antigen (HBsAg). The HBs antigen is a part of the virus and will usually appear in your blood, six to twelve weeks after infection. If the test is positive, you have Hepatitis B.

Further testing includes IgM antibody to HB core antigen (IgMHbCag), HB e-antigen (HBeAg), and Hepatitis B DNA. A positive IgMHbCag indicates an acute infection. If HBsAg is positive and IgMHbCag is negative, it indicates a chronic HBV infection. HBeAg is a marker for viral replication. A positive HBeAg indicates high viral replication and high chance for infectivity. HBV DNA is checked in all patients with chronic hepatitis B to decide on antiviral treatment.

All patients with liver disease should have a complete blood count, liver function tests and Prothrombin time. Low platelet may be the sole indicator of chronic liver disease. Liver function tests help characterize and stage the liver disease while prothrombin time helps assess the severity. An ultrasound of liver is done to look for features of cirrhosis and hepatocellular carcinoma.

Prevention of Hepatitis B and Hepatitis C

Hepatitis B is a vaccine preventable infection. All health care workers should be vaccinated against Hepatitis B. Once vaccination is complete, presence of protective antibody titer in blood should be documented by checking the anti HBs titer,



1-3 months after the third dose of vaccine. An anti-HBs serologic test result of >10mIU/mL indicates immunity.

In the absence of active or passive immunization, the prevention of Hepatitis C is by taking precaution to limit the exposure to HCV contaminated blood or body fluids. Every patient should be considered potentially infective and universal precautions needs to be practiced every time, namely: -

- Use of protective attire and barrier techniques
- Hand washing and care of hands
- Careful use of sharp instruments and needles
- Disinfection and sterilization of instruments

Management of patients with HBV or HCV

All patients infected with HBV or HCV should have a complete blood count, bleeding time, prothrombin time / international normalized ratio (INR), thrombin time, partial thromboplastin time, and liver biochemistry tests, prior to any invasive procedures.

In patients with acute hepatitis or advanced liver disease with coagulopathy, elective cases should not be done. The physician treating the patient should be consulted to establish which drugs are used, their doses and their possible interactions. Most of the antibiotics prescribed for oral and maxillofacial infections can be used in patients with chronic liver disease and in general the beta-lactams can be administered.

Aminoglycosides can increase the risk of renal toxicity in patients with liver disease and hence it should be avoided. Non-steroidal anti-inflammatory drugs should not be used due to the risk of gastrointestinal bleeding and



gastritis which is usually associated with liver disease.

Currently, there are potent antiviral drugs available to treat Hepatitis B and Hepatitis C. Acute forms need only supportive treatment to manage symptoms. Patients with chronic Hepatitis B and C are evaluated for treatment. They should receive treatment with oral antiviral drugs.

Management of accidental exposures to HB and HC

Blood or body fluid exposure to an unvaccinated person will lead to the initiation of the post exposure prophylaxis. HBsAg status of source and health care worker should be checked first. In case the health care worker is vaccinated previously, the anti HBs titer should be checked immediately and if the titer is more than 10mIU/ml, then no prophylaxis is necessary.

On exposure to HCV, test for anti HCV must be carried out for the source. There is no vaccine or immunoglobulin available for HCV. If the exposed, health care worker becomes positive for HCV RNA, then he or she should receive antiviral treatment with direct acting oral antivirals.

Conclusion

Viral HB and HC are common in dental practice. All dental health care workers should be vaccinated against HB and antibody response needs to be documented. There is no vaccination available for HC at present. Universal precautions should be followed in dental surgery for all patients. Post exposure prophylaxis should be made available to all dental health care workers. Potent antiviral drugs are available to treat Hepatitis B and Hepatitis C. ☐



Who is a Better Dentist?

The number of dental clinics is rising and so are the dental surgeons. So to choose a good family dentist/dental clinic is a difficult job



Dr. Raed Saeed
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Patients are often worried about the high cost of dental work and feel that they have encountered dentists who do not do justice to their work.

Here is a typical example: My friend once told me a story about his wife who went to a dentist who charged Rs.1000/- for treatment. She thought that the charge was very high because she had a small ditch (according to her) and to fill that Rs.1000/- was too much. Moreover, the small ditch did not bother her so much except that very rarely some food would get lodged inside it, which she could easily take it out with a toothpick. Days went by and gradually she started getting pain in that area. The pain subsided; subsequently she started experiencing pain very frequently which could not be relieved by pain killers.

One fine morning, she saw a swelling on her face near that same tooth which made her rush to a dentist. This time she was not worried about paying Rs.1000/- as the treatment would alleviate the pain and subside the

swelling. So she went to the same dentist. But now the dentist told her that the treatment charges would be a minimum of Rs. 6000/-. The lady who thought Rs. 1000/- was too much, almost fainted when she heard that it would amount to Rs. 6000/-.

She thought that the reason for the dentist to quote such an exorbitant amount might only be because she had come to him again despite charging Rs.1000/- (according to her). Without thinking further, she took the medical prescription and told the doctor that she would report the following day.

After coming out of the dental office, she went to another dentist nearby even though she had no personal acquaintance. To her surprise, that dentist quoted Rs.4000/- for the treatment. Without a second thought, she told the doctor to start her procedure (root canal treatment) which was to be done in three visits. All these made her lose trust in the previous doctor and led to many conclusions about dentists, their ways and costs of dental treatment.

Hearing all these, even my friend got a bad image about the previous dentist who is also a good friend of mine and a well-known busy practitioner.

Having been told of this incident, I told my friend to take the story further ahead. So he continued. After the third visit, her root canal treatment was finished and she was very happy with it. The dentist also told her that she required a crown for the same tooth, as the tooth is very weak and can fracture at any time, which would cost her a minimum of Rs.3000/-. She came home after fixing an appointment with the dentist for the preparation for the crown. The story ends there.

But I rang the other dentist who as I mentioned earlier, is a friend of mine and asked about this lady. As expected, his treatment charge of

Rs. 6000/- was inclusive of the crown charge.

So obviously many questions arise:

- Why did the first Dentist (say Dr. S) not explain her about the treatment and why did he not tell her that the total charge includes cost of root canal treatment and that of the crown?
- How did this difference in treatment charges come when she consulted the second dentist in the same locality?
- How did the treatment charge of Rs.1000/- shoot up to Rs. 6000/- in a matter of a few days?
- Why did the second Dentist (say Dr. N) not speak about the crown in the initial visit?
- Now as we know the details, why did Dr. N charge more for the root canal treatment along with crown than Dr. S?
- How do we decide whose treatment is better in terms of economy and quality?
- How much do we trust either of them?
- Who is better and why?

First of all, the ditch the lady had in her mouth might have been small according to her; but the dentist might have found that it was deep inside either clinically or with X-rays. This might be the reason for the pain and swelling in a few days' time or else the dentist might have been trying to save the tooth from a root canal treatment even though it was deep enough. Sometimes, if the lady had gone to another dentist on the same day, he might have suggested a root canal treatment directly. This also explains why Rs.1000/- has shot up to Rs. 6000/- in a matter of a few days.

The second visit to Dr. S's clinic

was terrifying for the patient after she heard about Rs.6000/-. She did not bother to ask the dentist about the details of treatment or the procedures she had to undergo because she had the preconception that the dentist was charging very high. If she had asked for, he might have explained in detail.

Dr. S knew that the lesion was deep inside and would require mass preparation of the tooth; so he might have had the opinion that the crown was a necessity as the tooth structure would be very weak after the root canal procedure; so he did not explain about the crown separately at first. Perhaps, he would have explained, if she had asked for it and believe me, most dentists who are experienced can very well read the minds of patients and can get a rough idea whether the patients have come to do the treatment or not.

Difference in treatment charges among different dentists is a vast topic; there are several reasons and sometimes the high priced dentist is on a favourable side and vice versa.

Now take the case of dental crowns which are available in various types; the procedure of cutting the tooth for a crown also requires many armamentaria which are also available in different qualities; to add to it even the impression taking technique differ from one practitioner to another. Sometimes the impression alone can cost the dentist nothing less than Rs.1000/- (special type of material called Silicone) which can record the tooth details so precisely that it will reflect in the crown after it is placed. You can feel the difference of a crown which is seated perfectly and which is not. More than that, price of a crown depends on its quality as well as the lab from which it is fabricated.

Another thing is that Dr. N might

have told the lady about an all-ceramic crown which is costlier than metal and metal ceramic crowns.

Now you might have got more confused on deciding; whose treatment is better and whose is not. To decide that, you should speak to the dentist, ask your relevant doubts and know about the options available and try to gain some knowledge about the options from reliable articles or relatives who are in the field of dentistry.

Now the question arises; whom to trust?

It all depends on the sincerity and dedication of the dentist. This can be known from his degrees, from his explanations, from previous treatments got done from him, from your friends or neighbours who have undergone treatment from the same dentist. All these will help evaluate which doctor is better and why.

Now I will try to explain to you some facts about dentistry which you should know as a common man.

Dental care is not a commodity. It is not laundry detergent or breakfast cereal or wireless minutes. Dentistry is a professional service which combines both art and science. Yes, there are excellent dentists and not-so-great dentists. Often, you get what you pay for. Remember, even great dentists have bad days.

Overhead costs are huge. Anywhere from 60% to 80% of what a patient pays goes toward the expense of running a modern dental practice. Dentists have to pay for rent, hygienists, office managers, receptionists, health insurance, taxes, supplies, business insurance and technology in addition to mortgage on their office space – just to name a

few. A lot of people would be surprised to know how tight the profit margins are in a practice set up.

Never avoid or reject a Dentist's / Dental specialist's treatment just because it is costly, instead ask the person or office concerned on what makes the specialist to charge so and so more than the other doctors and what added benefit you get out of this. If it is worth it, go for it. Always try to find the demerits and the part where he is going to compromise, before taking treatment from a dentist who does cheaper treatment and then decide if you are really in need of compromising on them. Try never to compromise on quality especially when it comes to health care.

Labs differ in the quality of the products they produce. We all want our dentists to use high-quality labs for things like crowns and dentures. Should we have to ask about the labs? Yes, if you have good knowledge about the labs. Otherwise, we should trust our dentists to select a good one.

In my view, you always want to use a good lab, because if the crown breaks, you are the one stuck redoing the thing for another hour and a half for free. It is important to make sure that you are putting good stuff in people's mouths, because the last thing anyone

wants to deal with is a redo. It does not make you look good, the patients get angry, insurance does not cover it and it is a waste of time. You want to do a good job which is satisfying to your mind and to your patients.

Dentists wish patients would value their teeth more. Teeth are a crucial part of health and appearance. Untreated gum disease, for instance, is linked to heart disease (Would you choose a cardiologist based on price?). With time, you will come to realize that price shopping is a minor concern when it comes to your health. Any minor cost difference which is to be amortized out over a lifetime will become insignificant. You will get the best results and have the most long-term satisfaction of getting care from someone you trust.

Conclusion

The number of dental clinics is rising and so are the dental surgeons. So to choose a good family dentist/dental clinic is a difficult job. Dental profession is a noble profession. Most of the dentists are highly qualified and are pioneers in their work; but like in every field there are a few of them who do not do justice to their work. So I hope after reading this article, you will be able to choose the best treatment available from the best dental surgeons in your town. ☐





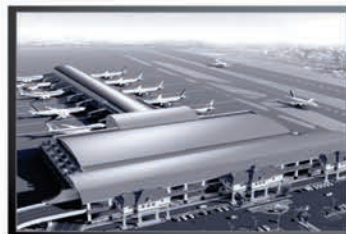
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Minimally Invasive Aesthetic Dentistry

From wax-up to mock-up to no-prep veneer – efficient technique for a successful patient consultation

It is the wish of patients to have greatly improved anterior aesthetics without having to undergo time-consuming, painful and expensive orthodontic treatment. In this article we will discuss how you can provide this service using a highly efficient technique.

The trick with the two models

The dentist simply takes an alginate impression of the patient's upper and lower jaw at the initial consultation. The dental technician pours these impressions twice in the lab. The first time using snow-white dental stone and the second time using brown dental stone.

The brown stone model remains unused and represents the actual situation of the patient's dentition. The dental technician fabricates a wax-up on the white stone model using "GEO Snow-white opaque" wax. To ensure that the important optical effect is not put at risk by carbon residue, it is best that the dental technician uses an electric wax knife such as the Waxlectric. The wax-up



Model with white and brown plaster

represents the ideal shape of the planned new anterior teeth of the patient. The dental technician fabricates a silicone mould

of this ideal shape and a preparation aid for the dentist.

At the next appointment in the dental practice (next day if possible), the dentist shows the patient the existing, suboptimal dentition using the brown stone model. The dentist then advises the patient using the attractive white stone model with the equally white wax about the kind of aesthetics and symmetry the patient could have instead. Patients find this type of consultation highly illustrative and would like to have the same nice teeth as quickly as possible.

A step further in the consultation



wax up set up

In order not to overexert the abstract ability of the patient, the dentist uses the silicone mould of the wax-up, fills it with white

composite and places the silicone mould on the patient's anterior teeth. The mock-up is now another consultation tool for the dentist and the patient can see the planned new teeth directly in the mouth and is in a better position to decide for or against the restoration. Depending on the stability of the mock-up, patients can also wear the mock-up for one day at home to show it to their partner or friends, if they cannot make an instant decision in the practice.

With this type of consultation experience has shown that in the majority of cases involving the aesthetic try-in of the mock-up the decision is instantly made in favour of the new teeth.

Fabrication of the restoration

The dentist then uses the silicone mould of the wax-up again to determine whether and where the teeth have to be prepared minimally. Next the dentist takes a precision



In comparison: mock up and wax up

impression of the anterior teeth using the same technique and material as for any standard crown or bridge.

The dental technician then fabricates a standard sectioned model in the laboratory. To transfer the wax-up pattern efficiently and reliably to the new sectioned model, the dental technician uses either a wax injector or flows sculpting wax into the silicone mould using an electric wax knife and the large wax knife and then presses this on the sectioned model.

The wax injector is very efficient: the dental technician drills two holes in the silicone mould. One is used for injecting the wax into the mould and the other is to allow the air to escape. The silicone mould is then removed and the shape and precision of the wax pattern is optimised. A wax that burns out without residue must be used for this, which should ideally be applied with the large electric wax knife to avoid burnout residue, as this would impair the quality of the pressable ceramic.

After the dental technician has finally compared this wax pattern with the wax-up of the aesthetic try-in, the wax veneer is sprued, invested and pressed, preferably in a lithium disilicate ceramic. The dental technician can now use the time-saving staining technique, i.e. select the shade of the press blank so that it does not require additional porcelain build-up and only staining and glazing porcelains have to be used. Or, if special requirements have to be made for the aesthetics and

interplay of shades, the veneers are trimmed back to the dentine core and this is overlaid with effect, enamel and/or shade modifier porcelains. The dental technician completes a final glaze firing cycle and mechanically polishes the veneers to the required degree of glaze, which can be significantly influenced by mechanical polishing.

The veneers can be fabricated with exceptionally thin wall dimensions using this technique and the material selection described. So thin that they sometimes look like colourless, transparent glass.

Patients have the feeling that they have actually received what was promised at the aesthetic try-in! Dentist and dental technician are soon regarded as heroes of aesthetic dentistry.

Efficient

Finally, it should be noted how quick it is to work with this technique. Four upper anterior teeth veneers can be finished and cemented within four days. There is minimum risk during fabrication. And if an error or failure should occur during fabrication, it can be quickly remedied without major investment, apart from the time lost. There is a rapid cash flow for the practice and lab.

Comprehensive consultation

This consultation can be the beginning of a good customer relationship with the patient. With the confidence gained the patient is happy to become integrated into a treatment concept. Professional tooth cleaning and polishing or renewal of old, unaesthetic fillings through to bleaching can represent a competent overall concept. Once the target or final shade is achieved, the veneers can be fabricated as described above.



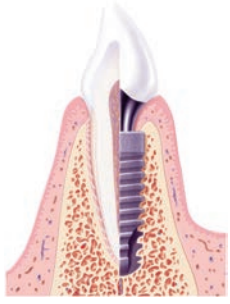
Before

After (mock up)



Dirk Sommerfeld

Dirk Sommerfeld, MDT, has more than 25 years of experience in the laboratory and dental industries. Trained in Germany, he has worked for labs, as an inhouse technician and owned a laboratory for 15 years. He has extensive experience in implantology.



Single Tooth Replacement with Dental Implant: A Case Review

A missing tooth is an omnipresent phenomenon these days sparing none from the age group of 16 and above. The age old methods of tooth replacement include removable partial dentures and fixed partial dentures (which needed reduction of the tooth structure for support).

But in modern times, the concept of Osseointegration discovered by Professor Branemark has changed the dental replacement scenario with the usage of dental implants.

Case Overview

A lady aged 24 years reported to the clinic for replacement of a missing second premolar in the second quadrant. Previous dental history suggested that she had an extraction done for the same tooth, 8 months ago. The patient was advised an Orthopantomogram (OPG) for evaluation and assessment of bone quality.

On evaluation of her OPG, I found that the healing was not complete in the 8 months since the extraction of the second premolar. Trabeculae of bone was big suggestive of a D3 to D4 quality bone. The fixture selected was 3.75*10mm (Alpha Dent Implant Active).

Procedure

The osteotomy was carried out in April 2016. As I passed on from the lancet drill to the 2mm drill, quick

dipping of the drill into the osteotomy site was experienced. The sequence of drills was carried out with the 3.2 mm drill being the last.

Copious irrigation was done with normal saline. The implant was placed subcrestally and subsequently the cover screw was positioned. Suturing was done. The patient was asked to take medicines for 3 days.

For the maintenance of oral hygiene, the patient was asked to rinse the mouth with Chlorhexidine Gluconate Mouthwash (0.2%) for three months and advised local application of a Chlorhexidine gel.

4 months post-operative

The second stage surgery was carried out, with removal of cover screw and placement of healing abutment or gingival former.

21 Days-Post Healing Abutment placement

Complete healing along with gingival formation was seen.

Impression taking

Closed tray method was selected along with closed tray impression coping. Material chosen was A-Silicone with light body in a single step. The impression was sent for pouring and subsequent require-



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Kolkata, West Bengal, India

ments for a jig trial to DentCare Dental Lab.

Jig trial

On the day of trial, it was seen that the abutment (straight) was very close to the gingival margin, with less than 7 mm of inter-maxillary clearance. Hence, screw retained prosthesis was planned. The trial was successful, matching both in the model as well as intra-orally.

Prosthetic delivery

An amazing emergence profile was achieved with slight blanching of mucosa.

The crown selected was DMLS on implant abutment with 15 years of limited warranty.

The crown was screwed on to the fixture followed by placement of a barrier in the screw hole, after which it was sealed with Type - 9 IX Glass Ionomer Cement (GIC). ☑



WORLD NO TOBACCO DAY

May 31st 2017

Tobacco is the principle cause of Oral Cancer leading to the highest morbidity rate which has made the World Health Organization (WHO) to form a “NO TOBACCO DAY” on May 31st every year.

“Tobacco threatens us all,” says WHO Director-General, Dr. Margaret Chan. “Tobacco exacerbates poverty, reduces economic productivity, contributes to poor household food choices, and pollutes indoor air.”

Many governments are taking action against tobacco, from banning advertising and marketing, to introducing plain packaging for tobacco products and smoke-free work and public places

Joining hands with the WHO, Mar Baselios Dental College, Kothamangalam, Kerala, also planned to observe this day by awakening the public through a rally.

To make this public awareness program a success, a campaign started in the college two weeks prior to May 31st through a poster and slogan competition among dental graduate students of all

academic years. The best slogans and posters were selected.

Informative posters were published containing the selected slogans in front of all departments two days prior. Finally, the Department of Public Health Dentistry (PHD) along with the consent of the Management and Principal of the college decided that the best way of conveying the message for “NO TOBACCO DAY” is through a vehicle rally as vehicles are symbolic of a youthful heart; so awareness campaigns in a vehicle cannot go unnoticed.

On 31st May 2017, the inaugural session started at 9:30 am which began with an introductory talk by the Faculty of PHD department, Dr. Eby Aluckal, Dr. Mathews Baby, followed by the Principal's address by Dr. George P. John. The inaugural speech was delivered by the Honorable MLA of Kothamangalam, Sri Antony John. He officially inaugurated the campaign by handing over the awareness pamphlet to a 60 year old patient named Varghese which was followed by an awareness talk by Panchayat member, Sri Arun C. Govind and Vice President of Mar Baselios

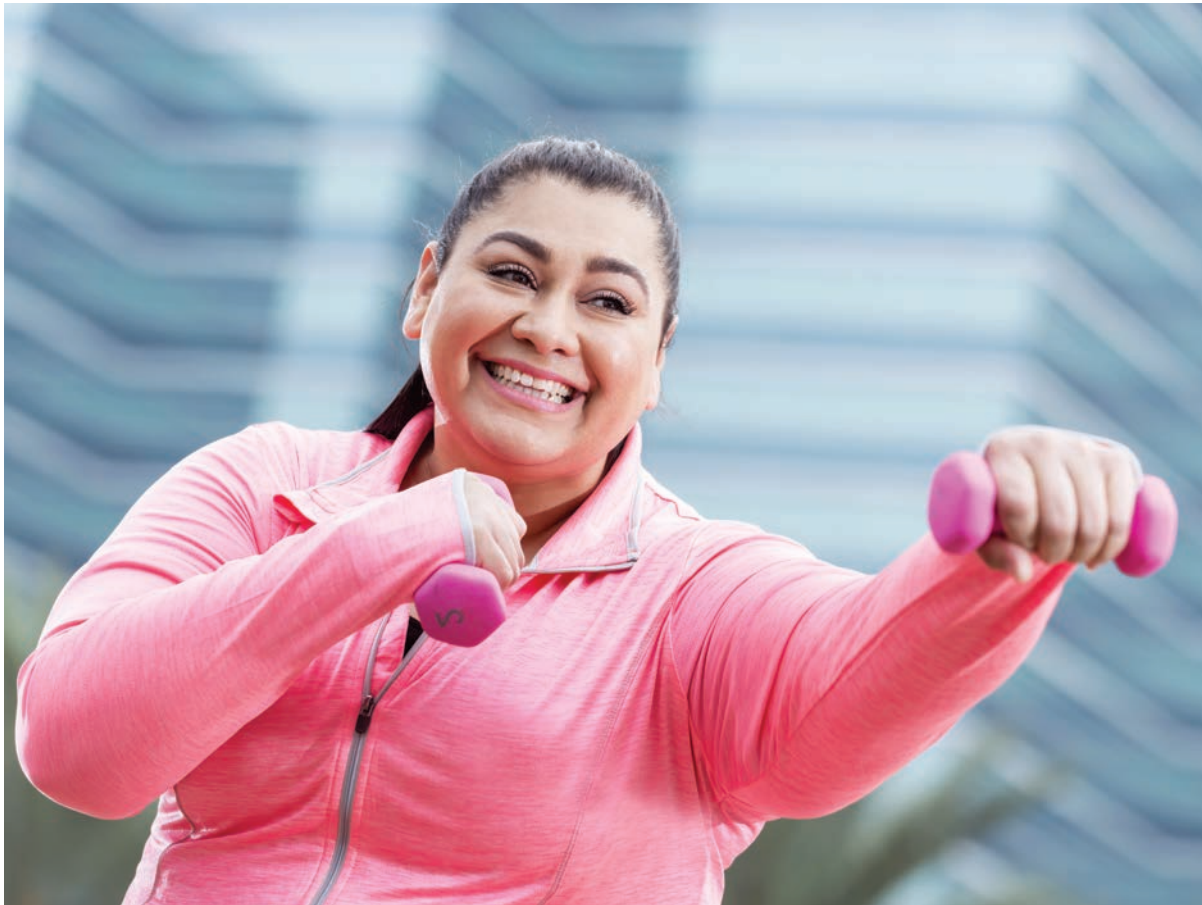
Medical Mission Association, Sri Binu Kaipillil. An informative talk was held by the Sub Inspector of Police, Mr. Laiju to the patients and public who had gathered.

An 'EFFIGY' resembling a cigarette was burned inside the campus to express “contempt against tobacco”. The vehicle rally was flagged off by the Honorable MLA and the Sub Inspector of Police. The rally comprised of nearly 30 vehicles, including both 2 wheelers and 4 wheelers.

The students, teaching and non-teaching staff actively participated in the rally. It began from the college, passed through Nellikuzhi, Thankalam and Kothamangalam town. The pamphlets were distributed to the public at the respective junctions. The rally concluded at the college and was signed off by felicitations given by the Principal and Dr. Majo Ambooken, Head, Department of Periodontics. Vote of thanks was given by Dr. Jacob Kuruvilla. It was followed by refreshments for the staff and students who actively participated in the rally and contributed to making this event a grand success. ☑



Intragastric Balloon for **Obesity**



Incidence of obesity is increasing the world over. It leads to various medical problems and health risks. It is very important to understand the issues and try to rectify it in time

Metabolic syndrome is a condition in which excess body fat has accumulated to such an extent that health may be negatively affected and life span is shortened. It is a group of diseases with increased abdominal girth (more than 90 cm in males and more than 80 cm in females) which is generally associated with increased Body Mass Index (BMI), Diabetes, hyperlipidemia, hypertension, polycystic ovaries, sleep apnoea and non-alcoholic steatohepatitis (fatty liver). Globally 671 million people are affected by obesity.

Obesity occurs over a period of time when you eat more calories than you burn. The balance between calories-in and calories-out differs in each person. Factors that might tilt the balance include your genetic makeup, overeating, eating high-fat foods and also not being physically active.



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Senior Consultant Laparoscopic
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Dubai, United Arab Emirates

Hormones in the gut like Ghrelin and Glucagon-like peptide 1 (GLP1) also play a role. Adipose tissue secretes adipokines and free fatty acids into blood which in turn produce insulin resistance and this leads to Diabetes, high blood pressure, high cholesterol and other obesity related disease.

$$\text{Body Mass Index} = \frac{\text{Weight (in kg)}}{\text{Height}^2 \text{ (in m)}}$$

Problems of Metabolic Syndrome

Metabolic syndrome raises concern because of its implications on health. It increases the risk of many diseases and health conditions. These include:

- Type 2 diabetes
- Coronary heart disease (heart attack)
- Hypertension (high blood pressure)
- Cancers (endometrial, breast and colon)
- Dyslipidemia (high total cholesterol and triglyceridemia)
- Stroke
- Liver and Gall bladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis
- Mental disorders
- Polycystic ovary disease and Infertility

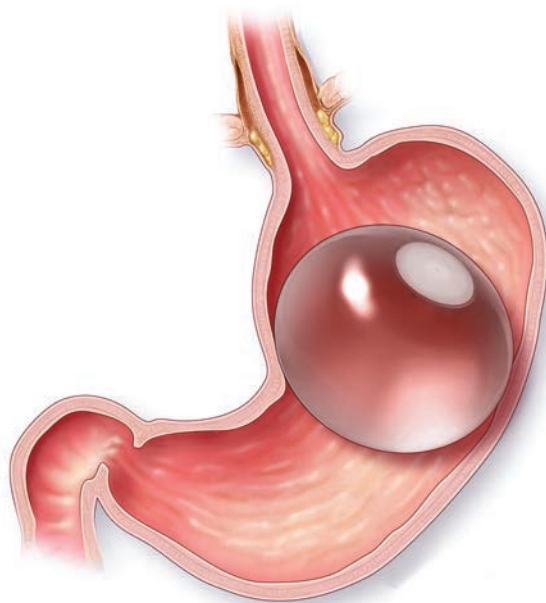
Metabolic Syndrome can be treated effectively

Treating Metabolic Syndrome involves more than keeping up a certain diet or taking a tablet. It requires multidisciplinary assessment, which involves several specialists collaborating as a team. The team often comprises a dietician, psychologist, gastroenterologist, cardiologist, pulmonologist, diabetologist, surgeon, anesthesiologist and intensive care specialist.

Treatment can be adapted to the needs of the patient and may include: Psychological support, diet and exercise, medical treatment, endoscopic balloon placements and Metabolic Surgery.

Intra-gastric Balloon (IGB) is placement of a deflated balloon in the stomach using endoscopy and then filling it to decrease the amount of intra-gastric space. It can be left in the stomach for a period of 6 months and results in average weight loss of 10-15 kg in half a year. It may be used in patients who are overweight and not coming to the category of sleeve gastrectomy.

If you suffer from Metabolic Syndrome and have tried various treatments without results, metabolic surgery



A gastric balloon aims to reduce feeling of hunger and helps feel fullness of the stomach. They are temporary and need to be removed after a period of time (6-12 months)



may be recommended. At present, surgery combined with behavioral changes is the only documented method for achieving long lasting weight loss for patients with morbid obesity.

Intragastric Balloon

A silicon balloon is placed in the stomach, under endoscopic guidance. A gastric balloon aims to reduce feeling of hunger and helps feel fullness of the stomach. The intragastric balloon device is not considered as a permanent weight loss procedure. There are different types and sizes of balloons in the market. All balloons are temporary and needed to be removed after a period of time (6-12 months).

Indications

- ☞ BMI more than 30 - Obesity Class I (BMI 27.5–32)
- ☞ Class II obesity (BMI 32-37) in whom surgery is not possible due to medical conditions or patient's dislike for surgery.
- ☞ In Morbidly obese (BMI > 37) as a procedure before bariatric surgery to reduce surgical morbidity.
- ☞ Any patient with an excess weight of 10-20 kg (BMI 23-27.4), with failed dietary measures

especially in cases with PCOD (Polycystic Ovarian Disease) and infertility.

- ☞ (Obesity class is based on guidelines for Asian population).

Multidisciplinary approach - Bariatric Team

The insertion of balloon does not require surgery. You will be supported by a multidisciplinary team that includes a bariatric surgeon, a gastroenterologist, a dietician and an anaesthesiologist.

Placement of Intragastric balloon

Your doctor does an endoscopy under mild anaesthesia with a flexible tube equipped with a camera to see the inside of the stomach. If there is no local disease during endoscopy, he sets up the intragastric balloon in the stomach. The gastric balloon consists of a silicon elastomer based material. It is soft and pliable. It is inserted uninflated through the mouth and down the oesophagus. It is coated with a local anesthetic to facilitate the passage.

Once the balloon is in the stomach, it is filled with a sterile saline solution colored in blue (BIB system) or air (Heliosphere system), through a catheter attached to the balloon. When a balloon is filled, the doctor gently pulls on the inner end of the catheter to remove

- ⦿ **Overweight and Obesity cause major health risks**
- ⦿ **Get rid of your excess – weight related diseases**
- ⦿ **Intragastric balloon in time may avoid a surgical option later**

it. The balloon has a self-sealing valve that prevents leakage of the liquid or air. The balloon floats freely in the stomach. The procedure time is about 20 minutes. You will be monitored in the hospital for a few hours before returning home (generally overnight).

Medications

During the initial days of the insertion of the balloon, nausea, vomiting, abdominal pain and acid reflux are common. Your doctor would prescribe medications to minimize gastritis. You can contact the doctor on the following days. You can have food as prescribed by the dietician. It is important to drink more water to avoid dehydration.

Some patients take a light meal. A radiograph of abdomen or abdominal ultrasound is rarely indicated for persistent abdominal pain. Nutritional assessment is done after one month and three months. A consultation (in person or over phone) every month will be scheduled. The consultations help to assess the progress of weight loss.

Dietary Counselling

The first consultation is scheduled a week after. Nutritional and behavioural modification is the key to lose weight and keep it up after removal of the balloon. Your physical activity is evaluated and diet is adjusted to your body needs and profession. A psychological treatment may be necessary in case of eating disorders.

Intragastric balloon withdrawal / removal

Intragastric balloon is removed when

- Weight loss is adequate
- Time period of 6-8 months has elapsed
- Spontaneous rupture
- Patient is not tolerating



Removal of the balloon is carried out after 6 months. The balloon is no longer effective then because the stomach has adapted to it. The gastric secretions make it porous and may deflate it. The gastric balloon is removed the same way by which it has been introduced through the oesophagus and the mouth-without surgery. The removal is performed under mild general anaesthesia under endoscopic control. The removal lasts around 15 minutes. The balloon is punctured and the fluid or air is removed and then the empty balloon is brought outside.

Complications

No major complication.

Nausea and vomiting during the first week in 7.4 % and after that it settles itself. ☒

Know Your Denture Cleansers

Replacing missing teeth helps to improve appearance, speech and mastication. Complete dentures are custom made replacement of missing teeth that can be taken out and put back into mouth by the patient. When dentures are worn, a biofilm develops on them which is very similar to dental plaque. The surface of denture has many microscopic pores that attract plaque, tartar, stains as well as bacteria and fungal organisms.

Like natural teeth, dentures must also be cleaned daily to remove food particle and bacteria. Earlier, dentures were cleaned using water, vinegar, lemon juice etc. It was in

Consistent, effective cleaning of dentures not only serves to enhance sense of cleanliness of mouth, but also prevents denture stomatitis and other tissue irritations

1930 that Alexander Block developed the Polident brand of Denture Cleanser at the Block Drug Company.

A denture cleanser is used to clean dentures and remove stains due to tobacco use, tea, coffee etc. They are also used to control the growth of microorganisms especially *Candida albicans*.

Main Ingredients of Denture Cleansers

- Dilute sodium hypochlorite (main constituent)
- Sodium bicarbonate
- Citric acid
- Sodium perborate





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- EDTA (Ethylene diamine tetra acetic acid)

Mode of Supply

Denture Cleansers are available in the form of tablets, solutions, wipes, creams, powder, denture toothbrush, ultrasonic bath. Commonly practiced cleaning methods include immersion, brushing or a combination.

1. Denture Cleansing Tablet

- Drop one tablet in warm water to cover the dentures

- Soak overnight
- Brush the denture with solution using soft brush
- Rinse thoroughly

2. Solution

- Simply dilute the solution in water
- Soak the denture in the solution

Some are corrosive to metal, so do not use with metal incorporated in denture.

Home-made solutions

They include hypochloride solution diluted 1:10 with tap water to act as antifungal and antibacterial agent. Acetic acid can also be used for immersion as it kills some organisms.

3. Wipes

- Remove the wipes from package and wipe the denture

Wipes are an easy method to remove denture adhesives.

They are fast cleansing, but cannot remove stains and tartar.

4. Denture bath

It is a box with a strainer for denture soaking.

Some of the denture baths have antimicrobial and UV light built-in for additional cleansing.

5. Denture Toothbrush

These brushes have specially designed soft and round end bristles to reach small and narrow areas of denture. Soft bristles prevent scratching of denture.

Non abrasive agents such as soap or baking soda may be safely used with these brushes.

6. Ultrasonic denture cleanser

They are available for home denture cleansing.

They utilize cleaning solution in conjunction with agitation produced by ultrasonic or sonic waves to remove debris and stains.

Keypoints

- ☞ Placing the denture in water or in denture cleanser solution when they are not being worn helps the denture retain its shape and keeps it from drying out.
- ☞ The denture should be thoroughly rinsed under running water before inserting in the mouth, regardless of whichever method is used to clean the denture.
- ☞ Cleaning and massaging of soft tissue can be performed simultaneously by a soft bristle brush or with a thumb or forefinger wrapped in clean cloth.
- ☞ Dentures should never be placed in hot water, which could cause them to warp.
- ☞ Neither use bleach nor household cleansers, which can be abrasive as they might damage the dentures.
- ☞ Denture cleansers should not be used while the dentures are still in the mouth.
- ☞ An addition or as an alternative to commercial cleansers, denture can be cleaned with mild hand

soap or dishwashing liquid and a soft bristled toothbrush.

- ☞ Optimum rest of 6-8 hours to the underlying tissues should be given by removing the dentures and keeping them soaked in water.

Conclusion

Consistent, effective cleaning of dentures not only serves to enhance sense of cleanliness of mouth, but also prevents denture stomatitis and other tissue irritations. ☑



Artificial Sweeteners at a Glance

Artificial sweeteners or sugar substitutes are food additives that mimic the sweet taste of sugar without all the calories found in table sugar and other calorie-laden sweeteners. They are many times sweeter than table sugar. They are considered useful in fighting obesity, diabetes and metabolic syndrome, all of which are risk factors for heart disease.

The U.S. Food and Drug Administration currently approved the use of the ensuing five artificial sweeteners: saccharin, acesulfame, aspartame, neotame and sucralose. It has also approved one natural low-calorie sweetener, stevia.

All other artificial sweeteners, when consumed frequently, have many side effects like obesity, metabolic problems, headache, vomiting, sleep problems, heart problems etc. Therefore, avoid their frequent use. ☑



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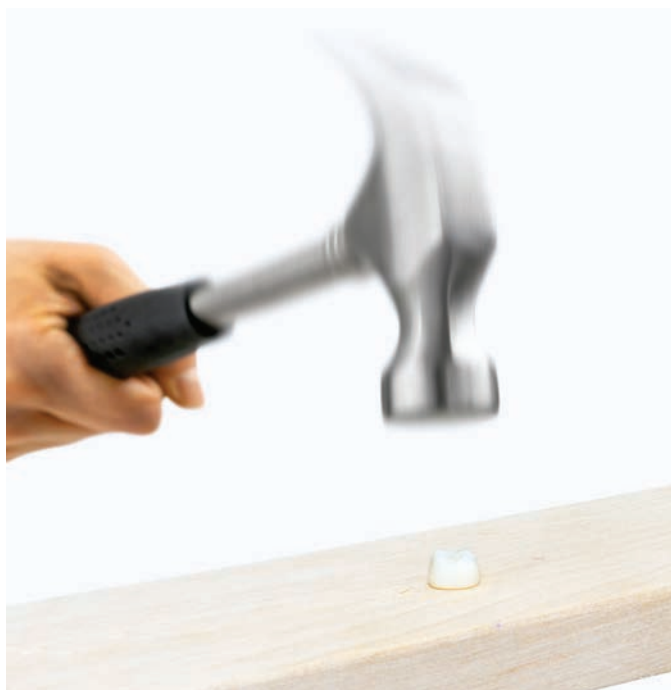
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DENTCARE, a leader in the manufacture of dental prostheses for multiple decades has introduced an epochal masterpiece-DentCare Zirconia-a biomedical grade material from Germany, used for the fabrication of Crowns, Bridges, Customized Implant Abutments, Inlays and Onlays and Primary Telescopes. State-of-the-art technology from Germany, coupled with our highly skilled technicians make DentCare Zirconia Premium, the optimum solution for perfect dental prostheses, besides aesthetic and functional fulfillment being guaranteed.

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- In bridges with more than 8 units, 2 continuous pontics may be given in anterior as well as posterior regions
- In bridges with at least 2 continuous abutments, 1 cantilever is possible. (However, distal cantilever is not advisable; avoid cantilever in canine and molar regions.)

DentCare Zirconia Platinum Plus

Benefits

- ⇒ Super Translucency
- ⇒ Lifelong warranty
- ⇒ Export Quality
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- ⇒ Giroform Plastic base Model used
- ⇒ Free Full Anatomy CAD Image will be provided before Production Process Starts

DentCare Zirconia Platinum

Benefits

- ⇒ Super Translucency
- ⇒ Lifelong Warranty
- ⇒ Free CAD/CAM Provisional is available
- ⇒ Giroform Plastic base Model used
- ⇒ Free Full Anatomy CAD Image will be provided before Production Process Starts

DentCare Zirconia Premium

Benefits

- ⇒ Flexural strength of 1550MPa
- ⇒ Limited 15-year warranty
- ⇒ Crowns and Bridges with up to 16 units are possible

DentCare Zirconia Classic

Benefits

- ⇒ Flexural strength of 1450MPa
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DentCare Zirconia BruxCare

BruxCare crowns are monolithic solid medical grade zirconia restoration with no ceramic layering. They are designed specifically for the posterior teeth with more emphasis on strength making it the ideal restoration for bruxers, implant restorations and areas with limited occlusal space.

Benefits

- ⇒ Glazed to a smooth surface to reduce plaque accumulation
- ⇒ Low wear on opposing dentition
- ⇒ Extraordinary strength-flexural strength of 1550MPa
- ⇒ Monolithic material makes the restoration completely chip-proof
- ⇒ No ceramic layering-staining technique only
- ⇒ Limited 20-year warranty

Indications

- ⇒ Ideal for patients with Bruxism
- ⇒ Up to 5 units as a single restoration
- ⇒ An aesthetic alternative to PFM
- ⇒ Ideal for bruxers who have broken natural teeth or previous PFM restorations
- ⇒ Suited for cases with less interocclusal space



DentCare Zirconia Superlucent

Benefits

- Layering Technique
- Made from Cubic Zirconia block

Indications

- Bridge up to 4 units only, with single pontic till 2nd premolar
- Single crown in posteriors

DentCare Zirconia Basic

Benefits

- Flexural Strength of 1450MPa
- Limited 10-year warranty

Indications

- Crowns and bridges up to 5 units (3 and 2 continuous pontics may be given in anterior and posterior regions respectively)
- In bridges with at least 2 continuous abutments, 1 cantilever is possible. (However, distal cantilever is not advisable; avoid cantilever in canine and molar regions)

DentCare Zirconia Translucent

Benefits

- Full contour option can be used both in anterior and posterior regions
- Limited 10-year warranty

Indications

- Crowns and bridges up to 3 units
- In bridges with at least 2 continuous abutments, 1 cantilever is possible. (However, distal cantilever is not advisable; avoid cantilever in canine and molar regions)



DentCare Zirconia Monolithic

DentCare Zirconia Monolithic crowns are fabricated in full contour out of a single biomedical grade zirconia material. It eliminates the layer of porcelain over the crown thereby making the crown much stronger. It is a great choice for posterior teeth as the restoration is very resistant to fracture and also strong.

Benefits


- Suitable for patients with Bruxism
- It may be used in posterior regions
- No ceramic layering-staining technique only

Indications

- Crowns and bridges up to 3 units
- Ideal for patients with bruxism
- Suitable for cases with less interocclusal space

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Today, medical grade DentCare Zirconia is the preferred option over other metal free restorative materials because of its remarkable strength, aesthetics and biocompatibility. Your preferences and desires are always an important element of consideration. Always choose quality products at an affordable price from DentCare.

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Anaemia in Pregnancy



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Anaemia is a major public health concern in developing countries like India. It affects about 80% of pregnant mothers in India. Anaemia in pregnancy has got serious implications and leads on to various complications to the mothers including maternal mortality. This condition also causes increased perinatal morbidity and mortality.

Anaemia in pregnancy is mainly due to Iron, Folic acid and Vitamin B12 deficiency. It can also be due to other less common conditions like Thalassemia and Sickle Cell Anaemia. Chronic diseases like Rheumatoid Arthritis, Tuberculosis, HIV infection and Renal failure can also result in Anaemia.

Physiological Anaemia in Pregnancy

In normal pregnancy, there is increase in blood volume and some amount of haemodilution. This leads to slightly lower level of haemoglobin in pregnancy when compared to non-pregnant women. This is called Physiological Anaemia in pregnancy and it is a normal change.

What is Anaemia in pregnancy?

Anaemia is defined by World Health Organisation (WHO) as a condition in

which haemoglobin level is less than 11g%. It is categorised into mild, moderate, severe and very severe depending on the haemoglobin levels.

Classification of Anaemia

- ⊙ Nutritional Deficiency
 - a. Iron deficiency
 - b. Folic acid
 - c. Vitamin B12
- ⊙ Decreased production of red blood cells in bone marrow
 - a. Disorders in bone marrow
 - b. Renal failure
 - c. Hypothyroidism
- ⊙ Increased red blood cell destruction
 - a. Sickle cell anaemia
 - b. Thalassemia
 - c. Autoimmune haemolytic anaemia
 - d. Malaria

- ⊙ Blood loss
 - a. Heavy menstrual bleeding
 - b. Gastrointestinal bleeding (Hookworm, piles)

There is an increased demand for Iron during pregnancy to supply the growing baby and the placenta, in addition to the increased blood volume for the mother. More iron has to be stored in pregnancy to meet the blood loss during delivery. Most of the iron requirement is during second half of pregnancy. Iron stores are low in women in developing countries and bioavailability of iron in Indian diet is also low. This explains the need of iron supplementation during pregnancy.

Iron Deficiency Anaemia

In India, iron deficiency anaemia in pregnancy is seen widely. This is because of:-

- ⊙ Inadequate intake of
 - a. Diet with low iron content
 - b. Diet having low bio-availability
- ⊙ Iron loss
 - a. Hookworm infestation
 - b. Malaria
- ⊙ Low iron stores
 - a. Increased number of pregnancies
 - b. Short interval between pregnancies – a woman becomes pregnant before regaining full health and this results in poor iron stores
- ⊙ Defective absorption
 - a. Phosphates and phytates in Indian diet
 - b. Deficiency of Vitamin C and A

Effects in Pregnancy

Anaemia in pregnancy has many adverse effects, some of them like increased susceptibility to infection, preterm delivery, thromboembolism (blood clots in blood vessels in the legs which can get dislodged to the lungs, the brain etc. which is very fatal) and cardiac failure. Blood loss during delivery will not be tolerated, even if it is in minimum amount, as the woman is already compromised.

Babies born to anaemic mothers will have low birth weight, prematurity, anaemia in infancy, increased perinatal mortality. Also result in poor mental and psychomotor performance in young ones.

Clinical features

Fatigue, headache, exercise intolerance, giddiness, palpitation, edema, breathlessness. Severe anaemia can result in



cardiac failure.

Diagnosis

From the symptoms, clinical examination findings and blood investigations.

Prophylactic measures

Pregnant women should be asked to take a diet rich in iron such as green leafy vegetables, sprouts, jaggery, meat and liver. Over cooking of food should be avoided. Cooking in iron vessels improves iron content and this should be encouraged.

WHO recommends supplementation of iron and folic acid. It is given to women coming for antenatal check-up. These tablets should be taken daily on all days starting from three months after becoming pregnant to three months after delivery.

Iron tablets are best taken on empty stomach. But, if this upsets the stomach, take them after food. Iron tablets should not be taken along with other medications like calcium tablets as it will inhibit iron absorption. Besides, it should not be taken along with tea or coffee. It should be taken along with plain water or with lemon juice as this will increase the absorption.

Another prophylactic measure is to get conceived (pregnant) after a health check-up and correction of anaemia or any other disease, if any. Another general measure is by improving the health status of girls and young women by regular deworming in addition to detection and treatment of anaemia.

Treatment of Iron Deficiency Anaemia

The treatment principle is by giving iron supplements to replenish iron stores in the body. Along with iron tablets, a woman also has to take nutritious diet rich in proteins and vitamins as well as minerals, required for the formation of blood in the bone marrow.

Iron is given either orally as tablets or as iron injections, depending upon the duration of pregnancy and severity of anaemia. This is also determined by the response to treatment. In certain cases anaemia has to be corrected by blood transfusion.

Women with iron deficiency anaemia need special care during delivery. Complications like cardiac failure and postpartum haemorrhage can complicate the process. They have to be



Iron is given either orally as tablets or as iron injections, depending upon the duration of pregnancy and severity of anaemia

monitored vigilantly; blood transfusion and supportive treatment, if necessary, have to be given.

Blood has to be checked after delivery and iron tablets have to be taken till six months after delivery. They should avoid pregnancy for three years ideally, till they regain full health.

Conclusion

To sum up, iron deficiency anaemia seems to be a simple disease but it has serious implications in mother and in baby. The complications can be overcome with proper preventive measures, early diagnosis and appropriate treatment. ☐





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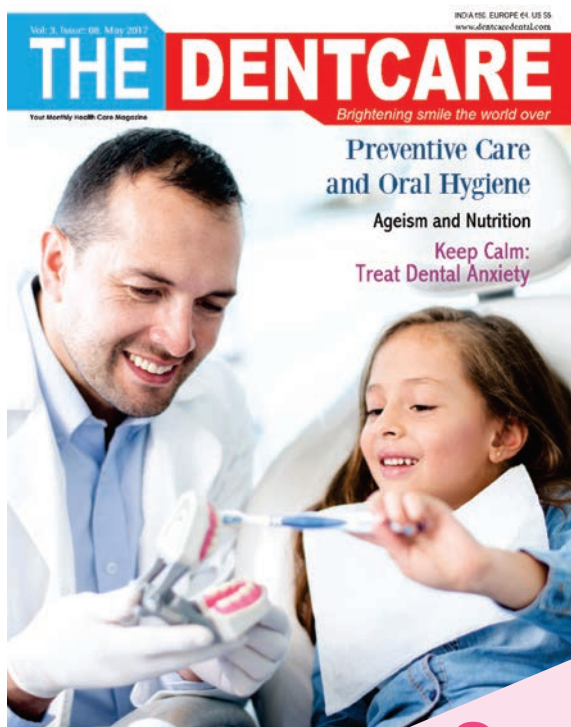
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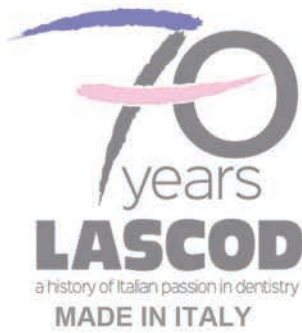
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