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THE DENTCARE

Your Monthly Health Care Magazine

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Elixir for future

HIV/AIDS
Facts and Fallacies



Merry X'mas & Happy New Year



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Dear DentCAREian,

December is the ideal occasion for us to remember a year that will soon fade into oblivion.

It is an opportune moment for us to reflect on whether we have added life to the passing year or merely let it pass as just another year in our lives.

Take a moment to recollect the days that would have slipped through your hands. It would be worth the recall. The reminiscences would help you relive those fleeting moments and transport you to moments of reconnect.

Memories are bound to be revived in the process as you oblige to accept my advice to retrospect while you recollect.

You will recognise engaging thoughts that you would love to retain as you analyse in detail the time spent meaningfully this year. You may even choose to revoke the unpalatable ones or repress the feelings of dismay that may have found space in the process.

Life can certainly become your best teacher. 2016 will soon be shelved as yet another closed chapter. Whether you chose to script it to perfection or not is a searching question that would be best answered by your conscience.

2017 is a new chapter awaiting your indulgence. Make a sincere attempt to author it well.

The DentCare family wishes you the warmth of the season and the abundance of His benevolence as a new beginning is waiting to unfold for you.

Your continued patronage is reassuring as we break new ice in living up to your aspirations.

Season's Greetings. God bless you.

Yours truly,

Prof. (Dr.) George P. John

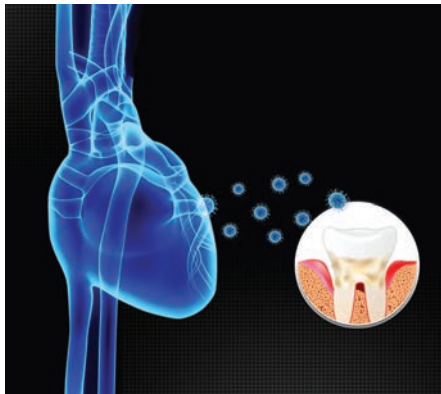
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Dear Readers and Friends,

I feel privileged and honored to write this message during this joyful season of Christmas and New Year, feeling grateful for a blessed and wonderful year 2016 behind us.

The DentCare December Edition is very special to me as it gives me yet another opportunity to thank The Almighty for the immense blessings showered upon us. I thank you too, from the bottom of my heart, for the encouragement and the wonderful support extended by you. It is promising to notice that you use this platform to streamline your knowledge to apply them for your personal growth and professional excellence.

Success is sweetest when the battles fought are tough. Every year gives DentCare the inspiration to make life better for ourselves and mankind as a whole. Our Commitment, Team work and affinity for top notch technology to make service delivery easier, amalgamated with your trust has made us global in the true sense. Our candidness to accept disapprovals has been well acknowledged and this has enabled us to rise with enhancements. The DentCare Magazine is dedicated to bring forth Information from the Ocean of Dental Science for practitioners, specialists and even the end users. We are equally devoted to making revisions to value your likes consistently.

Once again I thank you with utmost gratitude and request your continuous reading experience of The DentCare: Brightening Smiles the World Over.

We Wish you all a Merry Christmas and a Blessed New Year!

Yours truly,

John Kuriakose
Managing Director
DentCare Dental Lab Pvt. Ltd.

IMPACTED TEETH



An impacted tooth is one that fails to erupt into the dental arch within the expected developmental window. Because impacted teeth do not erupt, they are retained throughout the individual's lifetime unless extracted or exposed surgically. Teeth may become impacted because of adjacent teeth, dense overlying bone, excessive soft tissue or a genetic abnormality. Any tooth can be impacted but the third molars are frequently impacted because they are the last teeth to erupt in the oral cavity. Mandibular third molars are more commonly impacted than their maxillary counterparts. The third molars (wisdom teeth) usually begin to come in between the ages of seventeen and twenty one.





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The failure of the eruption of third molars could be due to:

- ❖ Lack of sufficient space in the person's jaw to accommodate the tooth.
- ❖ The tooth's eruption path is obstructed by other teeth.
- ❖ Because the angulation of the tooth is improper.

There are basically three types of impaction:

1. Horizontal impaction-The impacted tooth lies in a flat position within the bone.
2. Vertical impaction-The tooth lies in a straight position within the bone.
3. Mesial or distal impaction-The tooth lies in an angulated position within the bone.

Symptoms

The following symptoms could be experienced by patients during the presence of an impacted tooth:

- ❖ Difficulty in opening your jaw
- ❖ Swelling of the gum in the back of your mouth
- ❖ Bad breath
- ❖ A bad taste in the mouth
- ❖ Pain when you open your mouth
- ❖ Pain when chewing or biting

Pain can occur for several days and then disappear. It can recur after weeks or months later.

Diagnosis

An impacted tooth can be detected by a dentist through the use of special X-rays like OPG (Orthopantomography), IOPA (Intra Oral Peri-Apical radiograph) and Occlusal view X-ray. The X-rays give a clear picture about the position of the tooth with respect to the other surrounding structures. It helps the dentist in planning the method of surgical removal.

Complications due to the presence of impacted teeth

Periodontitis

Erupted teeth that are adjacent to impacted teeth are predisposed to periodontal disease. Since the most difficult tooth surface to be cleaned is the distal surface of the last tooth, in the presence of an impacted tooth there is always gingival inflammation around the second molar that is invariably present. Even this minor amount of inflammation can provide bacterial access to a larger portion of the root surface that result in early formation of periodontitis compromising the tooth.

Damage to other teeth

If the wisdom tooth pushes against the second molar, it may damage the second molar or increase the risk of infection in that area. This pressure can also cause problems like crowding of the other teeth or require orthodontic treatment to straighten other teeth.

Cysts

The wisdom tooth develops in a sac within the jaw bone. The sac can fill with fluid, forming a cyst that can damage the jaw bone, teeth and nerves. Rarely, a tumor usually non-cancerous (benign) develops. This complication may require removal of tissue and bone.

Decay

Partially impacted wisdom teeth appear to be at higher risk of tooth decay than other teeth. This probably occurs because wisdom teeth are harder to clean, food and bacteria get easily trapped between the gum and a partially erupted tooth. Sometimes the adjacent tooth also can become decayed as food lodges between the two teeth and can produce dental decay.

Pericoronitis

The difficulty in cleaning impacted, partially erupted wisdom teeth increases the risk of developing a painful, inflammatory gum condition called pericoronitis in that area.

Treatment

Treatment of impacted teeth depends upon the tooth which is impacted and its location within the bone. If the tooth is an upper canine and in a favourable position then a surgical exposure of the tooth is done and by orthodontic treatment the tooth can be pulled back into its normal space. If the tooth is a third molar, it is usually indicated for surgical removal. Surgical removal of impacted teeth can be done under local anaesthesia or under general anaesthesia. Surgical removal of impacted teeth under local anaesthesia is the most common method while general anaesthesia is preferable for apprehensive patients and patients with multiple impacted teeth. The advantage is that multiple impacted teeth can be removed at one sitting.

Instructions to be followed after surgical removal of impacted teeth

- Bite the moistened gauze tightly for 30 to 45 minutes.
- Hold an ice pack on the outside of the face close to the site of removal, every alternate five minutes to minimize swelling.
- Do not spit.
- Do not gargle your mouth.
- Do not smoke or drink alcohol during the healing period.
- Do not brush teeth over that particular area.
- On the day of surgical removal the patient should take adequate rest and restrict any vigorous activities.
- Consume a semi-liquid diet. No hot foods should be consumed.
- Warm saline gargle should be done 4-5 times a day only from the next day onwards.
- Do not drive vehicle after the procedure.
- Consume the medications prescribed by your dentist properly.

If you experience any allergy (rashes, swelling, itching) over your face or body after consuming the medications prescribed by your dentist then stop the medication immediately and consult your dentist. Complete healing of the extraction site will take 3-4 weeks. Sutures should be removed after one week of completion of the procedure.

Problems that could be anticipated post-surgical after removal of impacted teeth

- Dry socket-a condition when the blood clot is lost from the socket of the tooth.
- Infection in the socket due to bacteria or trapped food particles.
- Damage to nearby teeth, nerves, jaw bone or sinuses.
- Swelling over the face-gradually increases from the second day onwards and then decreases as the inflammation subsides.
- Pain-will persist up to 48 hours after the procedure and will subside gradually with analgesics.
- Restricted mouth opening-is a common feature found after surgical removal. It is transient which recovers when the patient does mouth opening exercises.
- Bleeding from the extraction socket-mild bleeding after the procedure is anticipated. The gauze should be tightly held upon the surgical site. In case the bleeding persists, the patient can bite upon a tea bag at the surgical site. The tea bag contains tannic acid which helps in clotting of the blood. Despite these measures, if the bleeding does not stop then consult your dentist.
- Nausea
- Sore throat

Prevention

Regular dental check-up will help your dentist to identify the presence of impacted teeth. Dental X-rays will be helpful to identify the position of the impacted tooth and in treatment planning. Earlier removal of the impacted teeth will help in preventing the possibility of future complications and damage to the adjacent tooth.

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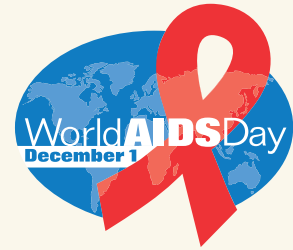
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HIV/AIDS

FACTS AND FALLACIES





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A Approximately 40 million people live with HIV (Human Immuno-deficiency Virus) in the world, today. This number is increasing alarmingly in every region, every day. Worse, ignorance and bias are also fuelling the spread of a preventable disease. Here is a snapshot at what the spectre of HIV/AIDS is all about, and what we would all do to stall the monstrous disease in its deadly tracks-to the best extent possible.

AIDS: The Modern Scourge

Few diseases have been feared as much as HIV/AIDS (Acquired Immune Deficiency Syndrome) since mankind began efforts to control and prevent major diseases. History is witness to several successful attempts in controlling, eradicating and preventing major causes of disability, or death. Control of diseases such as measles, polio, tetanus etc., through vaccines and eradication of small pox are examples of man's triumph over many killer-diseases. Although a large number of health problems continue to defy human efforts to control them, none of them presents a challenge greater than the control and prevention of HIV/AIDS. This is mainly because there is neither a scientifically proven cure nor vaccine to prevent HIV/AIDS, at the moment.

AIDS in India

India has the world's second largest HIV infected population after South Africa. About 10 million people are estimated to be HIV positive presently, though the official figure is much smaller. Around 38 per cent of these people were women.

The number of HIV infections in India is difficult to determine. India's prevalence estimates are based solely on sentinel surveillance conducted at public sites. The country has no national information system to collect HIV testing information from the private sector, which provides 80 per cent of health care in the country.

Although the official HIV prevalence rate is low, the overall number of people with HIV infection is very high according to estimates by United Nations Programme on HIV/AIDS (UNAIDS). Given India's large population, with most of the Indian states having a population greater than a majority of the countries in Africa, a mere 0.1 per cent increase in the prevalence rate would increase the number of adults living with HIV/AIDS by over half-a-million people. Maharashtra accounts for close to 50 per cent [which is the largest] of all reported HIV and AIDS cases in India, followed by Tamil Nadu and Manipur.

AIDS Fact-file

An estimated 40 million people worldwide were reported to be living with HIV infection.

Presently, every six seconds one person [10 per minute, 14,400 per day, 50 lakh per year] is getting newly infected with HIV in the world, and every 10 seconds, one person [6 per minute, 8,500 per day, 31 lakh per year] is dying of AIDS in the world.

More than 95 per cent of people with HIV infection live in the developing world.



40 million
HIV infected people



95%

HIV infected persons live in the developing world.



in every **6** seconds - newly infected

in every **10** seconds - dying



HIV Testing Before Marriage

How important is it to have tests for HIV and/or other Sexually Transmitted Diseases (STDs) before marriage? What is the meaning of window period?

People are fast becoming aware of HIV testing before marriage; however, a vast majority still does not know about the "window period." If a person is infected with HIV, the blood test [Elisa (Enzyme-Linked Immunosorbent Assay) for HIV antibodies] is positive only after three months. The period of initial three months, when the test is negative is known as the "window period." This is a dangerous period, as it gives the false impression that a person is HIV negative. The "infected" person can transmit the infection to others through unprotected sex. Experts strongly recommend two HIV tests with a gap of three months before marriage.

Besides HIV, it is also necessary to test for another fatal disease that is transmitted sexually, Hepatitis-B. A carrier of Hepatitis-B appears healthy outwardly, but can transmit the deadly disease to the partner through sexual contact. Syphilis, though fully treatable, is a dangerous Sexually Transmitted Disease (STD) when it is not detected. It is particularly notorious as it plays hide-n-seek with the patient giving him/her false signals of self-recovery, while progressing in the body. A Venereal Disease Research Laboratory (VDRL) test or Treponema Pallidum Hemagglutination Assay (TPHA) test for syphilis is, therefore, a must in all medical check-ups before marriage.

HIV Positive Person in Family

HIV cannot be contracted through casual social contact - through utensils, clothes, or by using a common bathroom or furniture. It can be transmitted only through genital contact [penetrative intercourse, oral sex, anal sex etc.] or by blood-to-blood contact.

HIV/AIDS victims need to be treated with extra care and compassion. They yearn to be accepted and loved. It is only human to be empathetic to those who are suffering from AIDS.

HIV Transmission

A person infected or likely to be infected with HIV [or, any other STD] should be aware that a condom cannot completely eliminate the risk of transmission of HIV/STDs to themselves, or to others. Deep kissing, accidental contact with other body areas where skin could be open [visible or otherwise] can also transmit HIV.

Medically, a sexual relationship with multiple partners [with, or without condom] poses a high risk of transmission of HIV/AIDS and other sexually transmitted infections.

Eighty per cent of commercial sex workers in India are already HIV positive. All forms of sexual acts with a commercial sex worker amount to high-risk behavior with very strong chances of contracting HIV/AIDS and other STDs.



THE SIDE
EFFECTS OF A

**PERFECT
SURGERY**

Every surgeon aims to get the desired result which he promised the patient and even better, the smile on their face as they leave the hospital and the words of gratitude when they come across the doctor again.



Dr. Roshan Radhakrishnan

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Author Biography

For Dr. Roshan Radhakrishnan, bringing a smile on a person's face is the ultimate reward at the end of the day. Professionally, he achieves this by donning a mask every day and working as an anaesthesiologist to relieve physical pain and suffering. On a personal level, he does the same with his words, replacing the mask of an anaesthesiologist with that of a whimsical writer, with over 20 short stories published in various anthologies, both in print and online magazines.

In 2014, he won the 'Best Creative Writing Blog in India' at the Country's First Live Blogging Awards Ceremony, WIN'14.

Every surgeon aims to do the perfect surgery. He aims to get the desired result which he promised the patient and even better, the smile on their face as they leave the hospital and the words of gratitude when they come across the doctor again. Sometimes, however, even being perfect has its own drawbacks. You do not believe me? Well, let me tell you of a funny incident that I came across a few years ago.

A young girl had come down from the Gulf along with her parents to get operated at the hospital I was working in. She had a significant strabismus/squint (a condition where the two eyes are not properly aligned). As she was a child and would not cooperate or sit still for the surgery, I was called in as the anaesthesiologist. Now, the ophthalmologist did a splendid surgery and I happened to see the girl before she left the hospital and the change in appearance was remarkable. She and her parents were overjoyed with the cosmetic change.

The patient came back a month later for her follow-up with her surgeon. And yes, her parents had a significant bone to pick

with the doctor. Can you guess what it was?

The girl had no problems in vision. The squint had been completely corrected and there were no surgery related issues. The problem was that because of the surgery, the family was detained and not allowed to exit the airport!

The 'problem' was that the surgery had gone so perfectly well that the airport security in the Gulf refused to let her pass, claiming that this was definitely not the same girl in the passport picture! The family was detained at the airport and only after an hour of cursing the surgeon and finally opening up the cardboard luggage boxes and showing a discharge summary from the hospital and were allowed to leave.

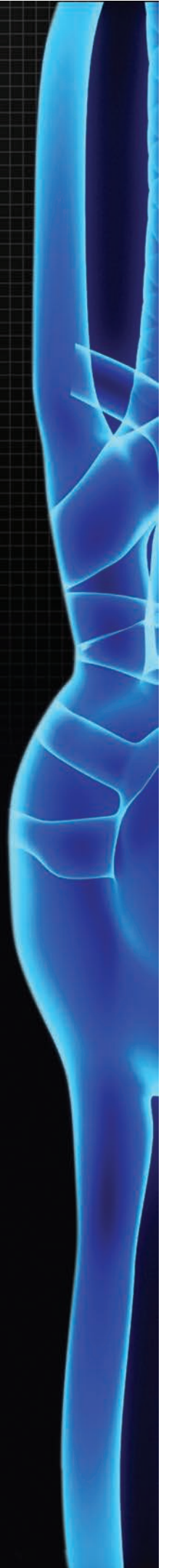
The family came back to complain (not necessarily in good humour either) that the surgery had gone too well. They claimed that if only the surgeon had not done such a good job, they would not have had to go through such an embarrassing situation while returning back!

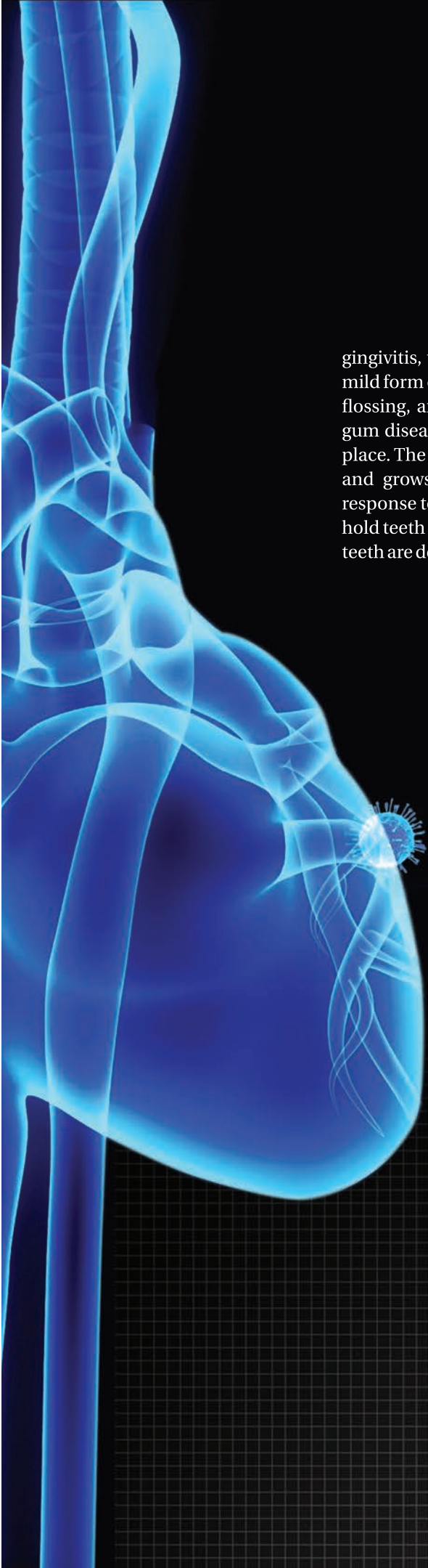
Sigh... even perfection has its side-effects.



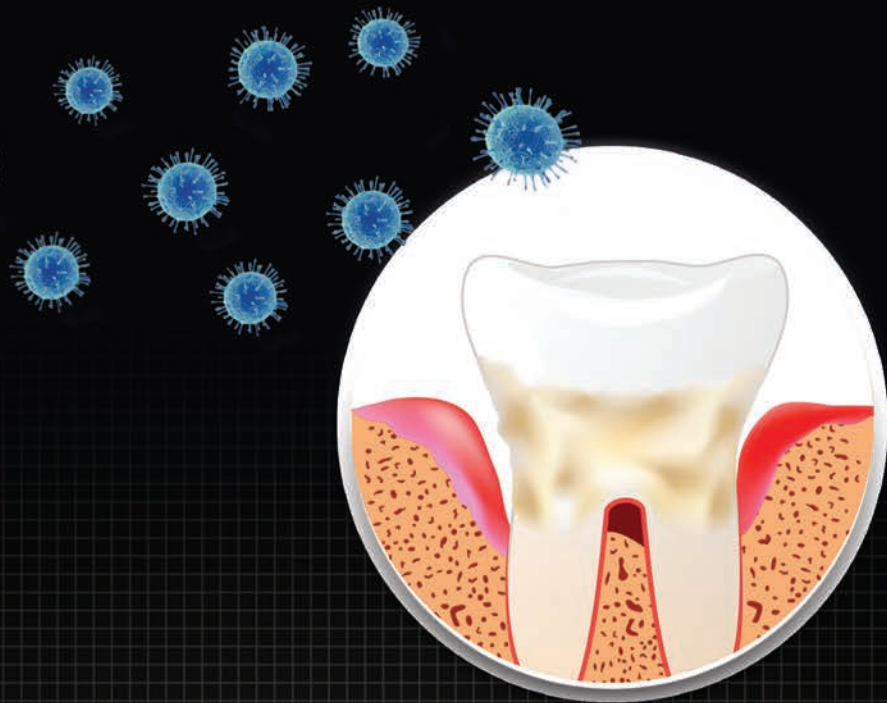
ORAL INFECTIONS IDENTIFIED AS KEY CAUSE LEADING TO CARDIO-VASCULAR DISEASES

Our mouths are full of bacteria. Germs in the mouth (bacteria) use the sugar in food to make acids. Over time, the acids can attack the tooth, creating decay leading to a cavity. These bacteria, along with mucus and other particles, constantly form a sticky, colorless film called “plaque” on teeth. Brushing and flossing help get rid of plaque. Plaque that is not removed can harden and form “tartar” that brushing doesn't clean. Only professional cleaning by a dental health professional can remove tartar. Untreated decay can become so advanced that the tooth must be removed (extraction). The bacteria cause inflammation of the gums that is called “gingivitis.” In





gingivitis, the gums become red, swollen and can bleed easily. Gingivitis is a mild form of gum disease that can usually be reversed with daily brushing and flossing, and regular cleaning by a dental health professional. This form of gum disease does not include any loss of bone and tissue that hold teeth in place. The body's immune system fights the bacteria as the infection spreads and grows below the gum line. Bacterial toxins and the body's natural response to infection start to break down the bone and connective tissue that hold teeth in place. If not treated, the bones, gums, and tissue that support the teeth are destroyed.



In patients with cardio-vascular diseases several risk factors such as high blood pressure, diabetes, smoking and drinking habits, genetic disposition, and chronic inflammation must be considered. Inflammation is the body's natural response to an infection. Experts think that as inflamed blood vessels swell less blood may flow to the heart and the rest of the body, raising blood pressure. Bacteria may enter the blood stream through the gums and become part of fatty plaques (a buildup of fat, cholesterol, calcium and other substances) in blood vessels. A stroke occurs when fatty plaques break off the wall of a blood vessel and travel to the brain cutting off its blood supply. A heart attack occurs when fatty plaques block a blood vessel leading to the heart.

Smoking is related to gum disease, heart disease and stroke. Smoking weakens your body's immune system. This makes it harder to fight off a gum infection. Once you have gum damage, smoking also makes it harder for your gums to heal. Nicotine in tobacco causes blood vessels to constrict. As vessels

narrow, blood pressure rises. Undetected or uncontrolled high blood pressure leads to heart disease, stroke, kidney failure and premature death. Quitting smoking and maintaining a healthy blood pressure through diet, exercise and nutrition may reduce the risk of developing heart disease and stroke.

Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or pain. Discomfort in other areas of the upper body - Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach. Shortness of breath with or without chest discomfort. Other signs may include breaking out in a cold sweat, nausea or light-headedness. Warning Signs in Women As with Men, women's most common heart attack symptom is chest pain or discomfort. But women are somewhat more likely than men to experience some of the other common symptoms, particularly shortness of breath, nausea/vomiting, and back or jaw pain.

Steps to a healthy mouth

- ♦ Use good oral hygiene measures.
- ♦ Drink fluoridated water.
- ♦ Brush your teeth at least twice each day with fluoride toothpaste.
- ♦ Floss daily.
- ♦ Gently brush all sides of your teeth with a soft bristled brush and toothpaste.
- ♦ Circular and short back-and-forth strokes work best.
- ♦ Take time to brush along the gum line.
- ♦ Brush your tongue lightly.
- ♦ Change your toothbrush when the bristles spread out, or at least every 3 months.
- ♦ If you wear dentures, remove them at night and clean them before putting them back in.
- ♦ Choose a healthy lifestyle.
- ♦ Don't use tobacco.
- ♦ It raises your risk of getting gum disease, oral and throat cancers, and oral fungal infections.

- ♦ Limit alcohol use.
- ♦ Heavy alcohol use raises your risk of oral and throat cancers.
- ♦ Eat a well-balanced diet and healthy snacks.
- ♦ Limit soft drinks.
- ♦ Even diet sodas contain acid that can erode tooth enamel.



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The Impact of Energy Drink Consumption



The term “energy drinks” refers to beverages that contain caffeine in combination with other ingredients such as taurine, guarana, and B vitamins, and that claims to provide its consumers with extra energy. This term was created by companies in the beverage industry. By promising immediate energy and decreased fatigue, energy drink brands have created a \$3.5 billion yearly industry. Aggressive marketing campaigns featuring celebrities and athletes target adolescents and young adults. A culture of blogs, urban legends, and “underground” chic has further increased their appeal. The wide availability of the beverages from grocery stores, convenience stores and school book-stores makes them readily accessible for purchase by adolescents, even though the products often retail for more than twice the price of “traditional” soft drinks. Although the media has clearly identified the trend towards increasing adolescent energy drink use, little medical literature describes this phenomenon. There is only limited evidence for the impact in consumption of energy drinks in improving physical and mental performance, driving ability when tired, and decrease mental fatigue during long periods of concentration. It is not known whether these improvements are due to the caffeine, other herbal ingredients, or as a result of the combination of the ingredients found in a beverage.



Dr. Neethu Varghese

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Caffeine is known to increase endurance and its use is therefore banned by the International Olympic Committee. Research has found consumption of caffeine prior to heavy exercise to be safe; however, the safety of consuming caffeine in combination with other herbal supplements found in energy drinks prior to or during exercise has yet to be established. Until the safety of this practice can be established, consumption of energy drinks prior to exercise by individuals of any age is not recommended.

A recent survey of 78 youth (11-18 years) found that 42.3 percent of participants consumed energy drinks; however, the effects of ingredients found in energy drinks on children and adolescent has raised concern. In adolescents, caffeine consumption has been associated with an increase in blood pressure. Based on the limited data regarding safety, it is not recommended that children or adolescents consume energy drinks. A recent study investigating the effects of energy drink consumption in combination with alcohol reported that, despite not feeling intoxicated, participants performed just as poorly on

objective measures of motor coordination and reaction time as they did after consumption of alcohol alone. In short, an individual may unknowingly overlook the debilitating effects of intoxication because of the sensation of alertness produced by the energy drink. Furthermore, both caffeine and alcohol act as diuretics, increasing the likelihood of dehydration and adverse cardio-vascular effects. For these reasons, it is not recommended to consume energy drinks in combination with alcohol.

People consume energy drinks prior to exercise to try to enhance their performance, largely unaware of the possibility of rapid dehydration in addition to tremors, heat stroke, or even heart attacks! The combination of fluid loss from sweating during exercise and the diuretic effect of caffeine causes increased risk of dehydration. Sports drinks are designed to rehydrate and replenish. Energy drinks are defined as soft drinks, which contain ingredients, such as caffeine, designed to boost energy and offer metabolic or central nervous system (CNS) stimulation. Another popular ingredient in energy drinks is

guarana. 3-5 g of guarana provides 250 mg of caffeine.

Guarana is a South American fruit that looks like suspiciously like an eyeball, with a fleshy white fruit that surrounds dark brown seeds. These seeds are about the size of coffee beans, but they contain more than twice as much caffeine. Additionally, however, guarana contains tiny amounts of theophylline and theobromine (the latter is chemical that makes chocolate poisonous to dogs and cats), which are similar to caffeine, although they exert subtly different effects on the body. Guarana also contains molecules



called tannins, which some say causes the caffeine in guarana to release slowly, producing a long-lasting energy plateau. The caffeine that humans seek in guarana serves a very different purpose in the wild: it's a natural insecticide that keeps plant-eating bugs at bay. Still, hungry birds can digest the fleshy, caffeine-free fruit, but the caffeine-rich seeds pass

unscathed through their digestive tracts, often landing in a new location, helping give rise to a new generation of guarana plants.

reliance. Excessive caffeine consumption can cause caffeine intoxication that leads to a fast heart beat, vomiting, seizure, and death. "Energy providing" elixirs are

Caffeine can make your blood pressure go up for a short time.

Keep in mind that adverse effects from caffeine can occur after as little as 50 mg. However, 85–250 mg usually results in feelings of alertness, decreased fatigue, and improvement in concentration.

Energy drinks are usually packaged like soda, and have a soda-like taste, but their distinction from soda lies in the extra ingredients, or at least the extra hype surrounding the ingredients. The often-promised "heightened mental awareness" from energy drinks is largely due to caffeine content, which can vary tremendously. Caffeine is natural and the mostly consumed stimulant in the world, many consumers believe it is a worry-free source of immediate energy with absolutely no side effects. This could not be further from the truth. Caffeine can raise blood pressure, disrupt sleep habits, aggravate psychiatric conditions, and induce

usually combinations of guarana, taurine, ginseng, and B vitamins.

After consumption of energy drinks, the pathway of the action starts as caffeine enters the blood stream within ten minutes of consuming an energy drink, triggering a rise in heart rate and blood pressure. Over the next 15-45 minutes, caffeine levels in the blood stream peak. As a result, an individual will feel more alert and experience improved concentration. Caffeine is a crafty drug that temporarily blocks adenosine, a chemical involved in how tired we feel while allowing 'feel good' molecules in the brain-such as dopamine-to be released more readily. You feel more alert and you feel better about yourself. All of the caffeine is absorbed within 30-50 minutes of consuming an energy drink and the liver responds to this by soaking up more sugar into the



bloodstream.

Within an hour, the effects of the caffeine will begin to subside and a sugar crash may occur. Energy levels will begin to feel low and tiredness will set in. It will take around 5-6 hours for the body to achieve a 50% reduction in the amount of caffeine in the bloodstream - known as the "half-life" - and it is likely to take double this amount of time for women on birth control pills. It takes an average of 12 hours for the body to completely remove the caffeine from the bloodstream, though this does depend on individual factors.

Pregnancy, liver damage and other drugs can also slow the rate at which caffeine is eliminated from the body; children and teenagers have a significantly longer half-life, meaning caffeine will remain in their bloodstream for longer and at higher levels than for adults. This is why



caffeinated drinks can cause behavioral problems and anxiety issues in children. It is safe for most healthy adults to consume up to 400 milligrams of caffeine per day. How much caffeine each beverage contains varies a lot, so reading labels is important. There is also a great variation in the amount of caffeine an individual can tolerate without unpleasant side effects. If you consume roughly the same amount of caffeine every day, you can develop a tolerance to it. Your tolerance level is affected by your age, body mass, and any health conditions you may have. Caffeine can also interact with certain medications.

Caffeine provides no nutritional value. It is tasteless, so you do not necessarily know if it's in your food. However, it can affect your mood and cause physical side effects. Caffeine reaches your brain quickly and acts as a central nervous system stimulant. The most noticeable

effect is alertness. It can help you feel more awake and less tired, so it's a common ingredient in medications to treat drowsiness. Caffeine and headaches have a complicated relationship. Too much caffeine can give you a headache. However, your body develops a tolerance to caffeine. If you normally consume caffeine and stop suddenly, it can cause a headache. Caffeine is used in some over-the-counter and prescription-strength headache and migraine remedies. Caffeine raises the amount of acid in your stomach and may cause heart burn or upset stomach. It is also a diuretic, triggering your body to get rid of water. That's why it's not a great thirst quencher. Extra caffeine does not get stored in your body. It is processed in the liver and exits in your urine. If you have stomach problems, like acid reflux or ulcers, ask your doctor if it is okay to have caffeine. Large doses of caffeine cause you to lose too much water, especially when consumed in conjunction with exercise.

Caffeine can make your blood pressure go up for a short time. In most people, there is no long-term effect on blood pressure. If you have irregular heart rhythms, caffeine may make your heart work harder. If you have high blood pressure (hypertension) or heart-related problems, ask your doctor if caffeine is safe for you. Caffeine in large amounts may interfere with absorption and metabolism of calcium. This can contribute to bone thinning

(osteoporosis). Caffeine travels within the blood stream and crosses into the placenta. Since it is a stimulant, it can cause your baby's heart rate and metabolism to increase. Too much caffeine can also cause slowed fetal growth and increase risk of miscarriage. In most cases, a little caffeine is safe during pregnancy. Caffeine can also contribute to painful lumps in the breast (fibrocystic disease). There is some evidence that large amounts of caffeine can interfere with estrogen production and metabolism, making it harder to get pregnant.

Above discussed are all the negative impacts of energy drinks which we think that they will boost our health. Unknowingly it kills us. The energy drawing acts in our life attracted us to these kinds of mind refreshments. Stay alert and whenever your brain and mind tells that you are tired, try hard not to be in the way to refrigerator to grab an energy drink, keep yourself on the tract to practice a simple five- or ten-minute walk, or eating fresh fruits, give yourself the same effect of jumping into a cold pool by picking up a refreshing, cooling drink. It could be an ice water with lemon or lime, or positive social interactions and it can be easy to get exhausted when sitting at a desk all day. Change things up by taking a few long, deep breaths and then doing light stretches, moreover drinking water throughout the day helps your body stay hydrated.

Autologous PRFM in Dental Applications and Surgeries

PRFM, or Platelet Rich Fibrin Matrix, is a biological substance made from peripheral blood to trigger healing and regeneration.

PRFM - Platelet rich fibrin matrix

PPRFM, or Platelet Rich Fibrin Matrix, is a biological substance made from peripheral blood to trigger healing and regeneration.

Platelet Rich Fibrin Matrix Therapy is a promising application in the field of periodontal regeneration and can be used in clinical situations requiring rapid healing. It also provides benefits in anti-aging therapy and many other regenerative applications. It merges cutting-edge technology with the body's natural ability to heal itself.

Platelets contain packets of growth hormones and cytokines that trigger tissues repair, regeneration and

enhance healing. When PRFM is injected into the damaged area, it activates a mild inflammatory response, which triggers the healing cascade.

PRFM biomaterial proved to be a good friend to Oral and Maxillofacial surgeons, which also has wide applications in other branches of dentistry such as Periodontics, Orthodontics, and Oral Implantology.

Although in western countries it is widely used, its usage is limited in India largely because of less awareness, cost and availability of the kit, standard process absence, contamination with RBCs, lack of ready to use kits etc.

Introduction

The "Platelet-Rich Fibrin Matrix" (PRFM) method extracts platelets from patients own blood and injected back under the skin as dermal fillers. Hence PRFM is a dermal filler; this process comes under cosmetic surgery to rekindle your youthful appearance. Platelet cytokines, growth factors, and cells are trapped in PRFM fibrin matrix and can be released after a certain time to restore the cell membrane. These trapped PRFM's can also be used in cell proliferation, extracellular matrix formation, angiogenesis, vascular modelling, chemotaxis, inflammation, wound repair, such as fibroblasts, macrophages, and endothelial cells.

Autologous PRFM is reflected as a healing biomaterial, and currently, studies have shown its application in various disciplines of dentistry. Joseph Choukroun a French physician invented PRF technique during 2001 with collaboration of two laboratories among the most renowned in the world (FORM in Frankfurt, Germany and Research Lab Clarion in Clarion, USA). Later, J. Choukroun pioneered PRF protocol in oral and maxillofacial surgery to improve bone healing in implant dentistry.

Wound healing and Regenerative Science

Wound healing a complex process involves many growth factors and cell types. Platelets are rich in growth factors such as PDGF (Platelet Derived Growth Factor), TGF β -1



Dr. Kaushik D. Deb

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(Transforming Growth Factor), IGF (Insulin Growth Factors), VEGF (Vascular Endothelial Growth Factor) and PF-4 (Platelet Factor) which helps in cell proliferation, matrix modelling and angiogenesis. PRF quickens wound maturity and epithelialization, which reduces scar formation. The growth factors trapped in the matrix releases to regenerate for tissue repair. Increased GFs from PRFM accelerates soft tissue wound

healing two-three times faster than normal process. Platelets play an important role in host defence mechanism by producing signalling proteins which attracts macrophages to the wound site. It also suppresses cytokine release and diminishes inflammation by interacting with macrophages to improve tissue healing and regeneration and promotes new capillary growth.



Platelet-rich fibrin in oral and maxillofacial surgery

PRF a natural fibrin supports micro vascularization and epithelial cell migration to its surface. It also supports natural immunity by modulating cluster of differentiation receptors, such as, CD11/CD18 receptors. PRFM is widely used in post enucleation of large periapical lesions, surgical removal of impacted third molars, impacted canines, preprosthetic surgeries, graft stabilization, placements of implants in borderline cases etc. PRFM used to fill the cavities reduces healing time in to half compared to time required for physiologic healing.

PRF in periodontics

Research suggests that PRFM may accelerate healing of any surgical site where soft tissue or bone is needed. PRF's are enriched with platelets, growth factors and cytokines increasing the healing potential of both hard and soft tissue. PRF works as a healing biomaterial during implant and periodontal surgery procedures to enhance bone regeneration and soft-tissue wound healing. PRF regulates the healing of osseous defects by expression of Phosphorylated Extracellular Signal-Regulated Protein Kinase (p-ERK) and stimulates the production of Osteoprotegerin (OPG) which helps in proliferation of osteoblasts.

PRF applications in dentistry

A study on PRF reported it stimulates the osteogenic differentiation of the human dental pulp cells by up-regulating osteoprotegerin and alkaline phosphatase expression. PRF also releases growth factors such as platelet-derived growth factor and transforming growth factor which promote periodontal regeneration. PRF stimulates cell proliferation of osteoblasts in a specific manner which suppresses oral epithelial cell growth. These cell type-specifications may be beneficial for periodontal regeneration. PRF grafting material clearly demonstrated that fibrin matrix of PRF directly promotes angiogenesis.



PRF application in periapical lesion in the region of upper anterior teeth



PRF in mandibular left 3rd molar socket



PRF used in cavity created post surgical removal of impacted right permanent maxillary canine

Other applications of PRF in dentistry

Orthodontics, periodontal regeneration and flap Lift surgeries, sports injuries and orthopaedics recovery, anti-aging-wrinkles (Skin and Hair), chronic wound healing, ulcers, gingivitis, root canal treatments, Implants and reconstructive surgeries.

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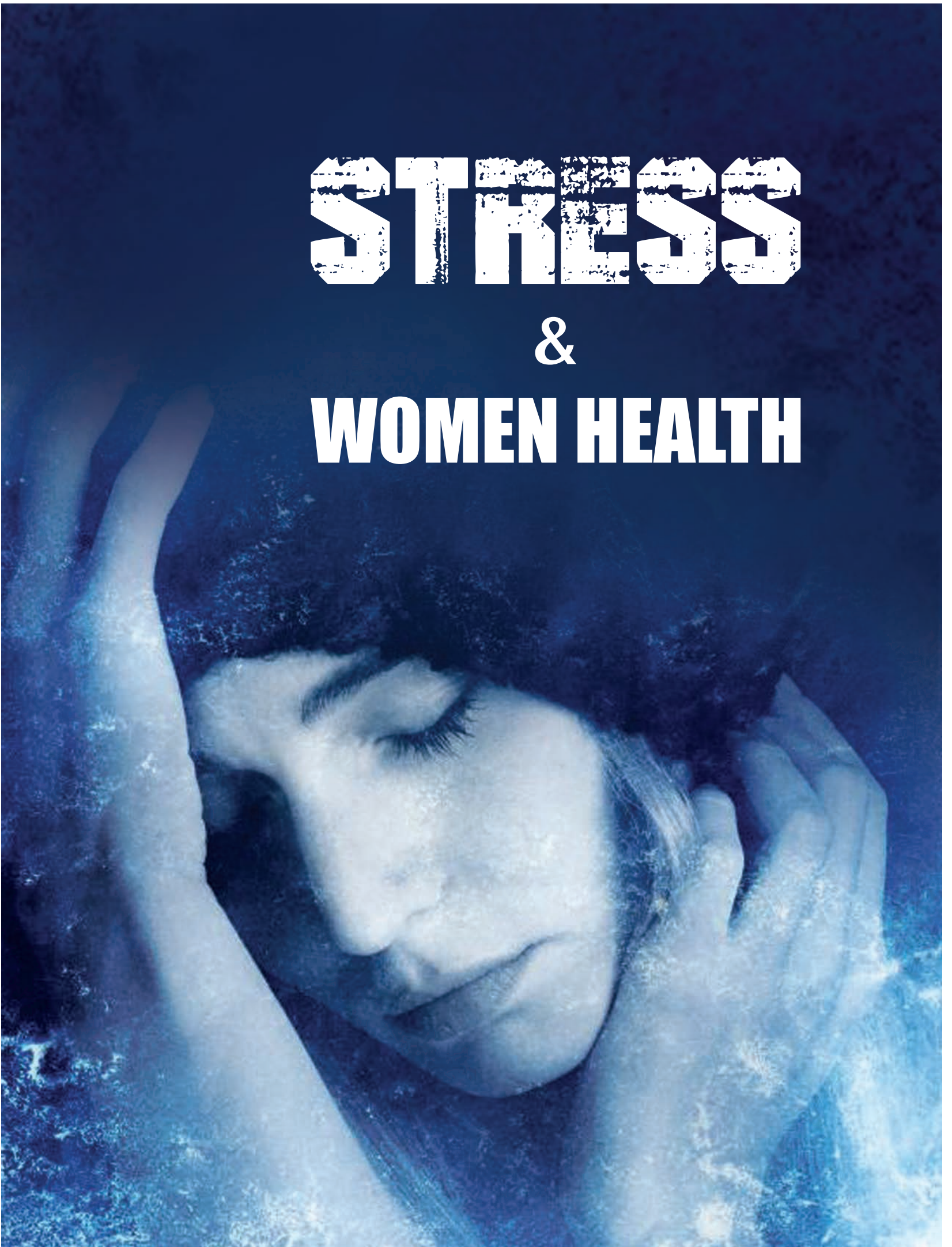
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STRESS

&

WOMEN HEALTH



Stress can involve a recent change or a daily pressure. Stress happens to everyone and can be motivating and productive or negative and destructive. Tension and anxiety, as well as depression, are frequent emotional consequences of stress. The mind and body are linked throughout our lives. We must learn to respect both our emotional and physical needs, or we will lose our equilibrium and ability to adapt.

STRESS INCREASES THE RISK FOR:

- Accidents
- Headaches
- Bowel disorders
- Poor digestion
- Skin disorders
- Eating disorders
- Emotional disorders
- Asthma attacks
- High blood pressure/strokes
- Colds/infections
- Backache
- Arthritis/immune disorders
- Heart attacks/recovery
- Cancer
- Ulcers
- Sexual dysfunction

Why do some experts feel that women are particularly susceptible to stress?

Women are socialized to be the caretakers of others. More women than men have both a career outside the home and continue to try to juggle traditional responsibilities after hours. Over 70% of married women with children under the age of 18 are employed outside the home. Sociologists describe women as struggling to achieve the "male standard" at work, while trying to maintain the perfect wife and mother standards at home.

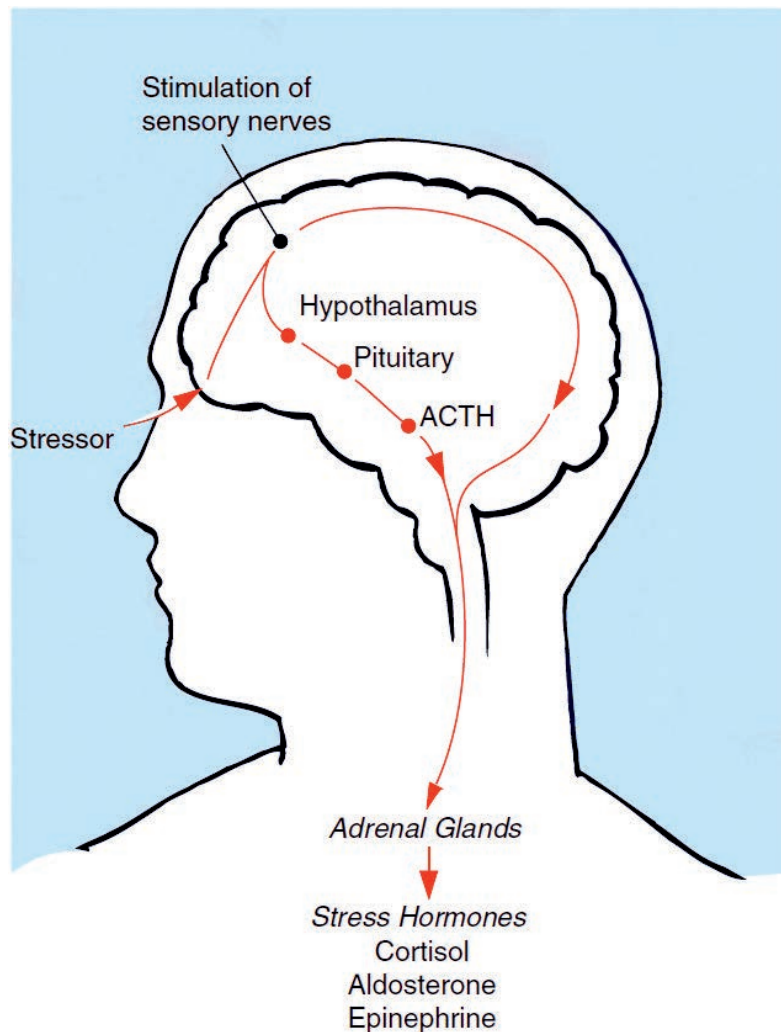
Women are also less likely to be in as powerful positions as men to change their environment. Women find it harder to say no to others' requests and often feel guilty if they cannot please everyone. They often spend less time nurturing their own emotional and physical needs, as that might be perceived as selfish. In addition, relationship alterations or the loss of loved ones can produce empty nest or other separation syndromes.

As women progress through life's stages, hormonal balance associated with premenstrual, post-partum and menopausal changes can affect chemical vulnerability to stress and depression.



SYMPTOMS OF STRESS

- Feeling tense
- Depression
- Poor memory
- Poor concentration
- Increased alcohol consumption
- Anger/hostility
- Difficulty making decisions
- Frequent mood swings
- Negative thinking
- Distractibility
- Excess smoking or eating
- Feeling overwhelmed or helpless



Physiology of stress

Although female sex hormones and brain chemistry offer some protection from stress, women are more deeply affected by the physical and emotional effects of stress than men. The effects of the natural anti-stress hormone oxytocin, produced during childbirth, breast feeding, and in both sexes during orgasm, are enhanced by estrogen and reduced by testosterone.

Aside from the fact that your anxiety might be keeping you up at night, freaking out triggers your brain to release

the hormone cortisol into your blood stream. This helpful chemical quickens your heart beat, gives your brain more oxygen, and releases extra energy to help your body deal with that stress. But frequent stress can cause your brain to limit the amount of cortisol it sends into your blood stream, which can make you feel like you're dragging butt all day, every day. Chronic stress can impact your body's production of estrogen, which keeps your reproductive system in working order.

Those knots in your stomach could be more than just an uneasy feeling. Chronic stress can impact the hormones released by your thyroid glands, which regulate your metabolism among other things. If these hormones get off track, it can lead to constipation. When you are feeling this symptom, head to the gym, drink lots of fluids, increase your fiber intake, or take a laxative if you need to.

When you are really freaking out, the level of sex hormones called androgens in your body spike, causing acne to flare up. You can try using birth control to keep breakouts in check or using topical treatments when they occur. In addition to zits on your face, stress can also show up on other parts of your skin in the form of rashes. That's because anxiety wreaks havoc on your immune system, which can make eczema act up or cause skin infections like staph.

Traumatic stress, meaning stress that occurs when you feel a threat to your life or a loved one's life and feels like intense fear or helplessness, seriously impacts your hippocampus, the area of your brain where your memories are stored. This kind of stress causes the hippocampus to actually shrink, making it tough to remember facts, lists, the entirety of an event, or long gaps of time (from minutes to days). Plus, damage from stress can make it hard to create new memories.

If you have a nasty habit of picking or biting your cuticles, it might be how your anxiety is

rearing its ugly head. And besides ruining your perfectly manicured tips, picking at your fingers can lead to a nasty infection since you use your hands for pretty much everything. To keep this anxious habit from affecting your nails, make sure you're moisturizing frequently and wearing bandages on your fingers to minimize the damage.

Dieters who learned stress-management tactics were more successful at losing weight than dieters who did not. The connection between reducing stress and losing weight could be that it helps cut back on stress-related binge eating. Plus, another study published in the

journal *Psychoneuroendocrinology* found that women who were constantly stressed out metabolized fat and sugar differently than those who weren't anxiety-ridden.

Just as a spike in androgens can cause your skin to break out, it can also cause your hair to shed more than usual, usually three to six months after a super stressful situation. The good news is that this unfortunate side effect should only be temporary, and a balanced diet can help the cells in your hair follicles heal back to normal.

When you are stressing, your heart rate and blood pressure

rise and your body pumps out hormones to help with your fight-or-flight response. This combo can cause your muscles to tighten up and amplify the aches you get from sitting at a desk all day. You can combat stress-related back pain by standing up every hour and stretching.

How can I cope with stress?

Leisure time must be considered a necessity, not just a reward for doing more. Personal time for rejuvenation will never be available unless it is planned. Prioritizing based on principle rather than demand is sometimes difficult to learn, but is critical for peace of mind.

What activities can help relieve stress?

Here are some examples of activities that can help to refresh the body and mind



- ✓ Taking baths
- ✓ Reading
- ✓ Doing breathing exercises
- ✓ Receiving back rubs/massages
- ✓ Listening to relaxation tapes
- ✓ Writing in a journal
- ✓ Meeting with a friend
- ✓ Napping
- ✓ Walking
- ✓ Dancing
- ✓ Engaging in spiritual reflection
- ✓ Stretching
- ✓ Listening to music

SANDBLASTING MADE IN GERMANY!

“For more than 15 years I worked with sandblasters from a quality German manufacturer-in a Turkey laboratory where I made my education-and now in Bangalore. Each of them had two tanks for the appropriate abrasive. Replace the tungsten carbide nozzles once in a while, renew the odd leaking pressure hose and the viewing panel again and again, that's all we ever did. There was no need to change anything. At first I wasn't enticed at all by Renfert's offer to try out the Basic quattro IS. The time and effort required for installing it and what should it do other than sandblast...? I'm sure you know what I mean. If one were to try out everything, there'd be no time for working. And what happened then? I installed the Basic quattro IS after all.

The first reaction is that 'the glass pane is missing', yet that's not true. But, the viewing panel really is fantastic-giantsized and crystal clear. At second glance I realized that it's not the pane alone which is so great-after all, a brand new pane ought to be crystal clear-it's the pane together with the illumination. 'That's really something or, to put it better, you can actually see things and it even stays that way after six months of use!' The glass is still crystal clear and the excellent diode illumination has not faded. The blasting chamber side of the glass pane is coated with a thin layer of silicone which apparently is not affected by the abrasive-simply ingenious! Once in a while just carefully wipe the pane moist, dry it and that's it. Great!

Many new features and canny solutions only become apparent one by one. For example, the working pressure for each of the large sized abrasive tanks can be elected separately. Blasting is only triggered once the desired air pressure has built up in the tank and it stops immediately when

the footswitch is released (IS = Immediate Stop). This saves time, abrasive and money as well as promoting precise working-what more do we want? The dust extractor uses a wide diameter duct which removes dust reliably yet without creating a powerful and disturbing jet of air. This 'flow effect' is supported by an air inlet membrane located opposite the extractor which ensures that the influx of air 'carries off' the dust effectively-ingenious! 'Odds and ends' such as the air blower in the blasting chamber go almost unnoticed. And what about the actual sandblasting? Yes, I was amazed there too. Even at a pressure of 0.5 bar (and lower) precise blasting is possible. The abrasive strokes the object without choking up, spluttering or clogging to conjure up a uniform surface structure. At a blasting pressure of 6 bar there's no more stroking, the microblaster develops enormous power and, together with aggressive 250 µm 'Cobra' aluminum oxide (Renfert) things really get going. The 'edge definition' of the sandblasted surface can be adjusted depending on the distance between the nozzle and object. Without having to exaggerate, I can claim to be totally convinced of the Basic quattro IS sandblaster. I can now work faster, more precisely and relaxed-stock-taking will tell how much less abrasive has passed through the nozzles. No way will my 'old' sandblasters be put back on the bench-period!”



Hayati Dasbilek
Chief Dental Technician
Bangalore



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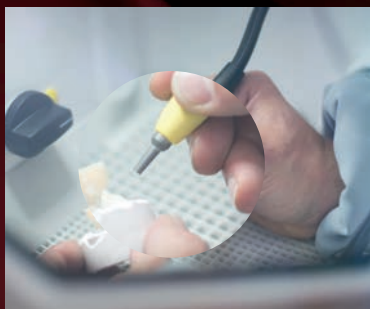
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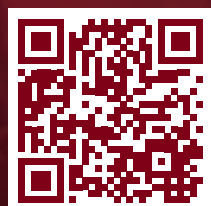
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CANCER AND BACK PAIN

Dr. Krishnakumar R. 

Consultant Spine Surgeon
Department of Spine Surgery
VPS Lakeshore Hospital
Kochi, Kerala, India



Back pain is a common disorder affecting both young and old people. There are many causes of back pain ranging from muscle strain, slipped disc, infection, osteoporosis and cancer. As the proportion of elderly people in the world has gone up, so has the number of cancer patients. In fact, increasing age itself poses a greater risk for developing cancer. Hence back pain in older age may be viewed with suspicion.

Clinical scenarios are as follows:

- 65 year old man develops severe back pain after a long car journey.
- 68 year old lady comes with a severe back pain and leg pain with difficulty to walk.
- 60 year old man develops sudden severe upper and mid back pain.
- 62 year man develops back pain, numbness of legs and difficulty in passing urine.
- 70 year old lady admitted with complete paralysis of both legs.

All the above five patients were evaluated and found to have cancer involving the spine.

How does spine cancer or tumour occur?

Most spinal cancers are secondary; cancer cells reach the spine from tumours originating from other organs of the body like breast, prostate, lungs, gastro-intestinal region etc. (known as metastasis). These cancer cells spread via blood and lymphatic channels to reach the highly vascular bone marrow of the vertebrae. These tumour cells proliferate uncontrollably in the spine and weaken the bones of the back. These weak bones can fracture spontaneously or after a minor fall or jerk during travel. When the tumour spreads further to the spinal canal (which contains the spinal cord and spinal roots to arms and legs), patient develops signs of spinal cord/root compression.

What are the symptoms of spine cancer?

Back pain which is not relieved with rest; back pain worsening at night and progressive in nature. Acute severe pain due to pathological fracture of

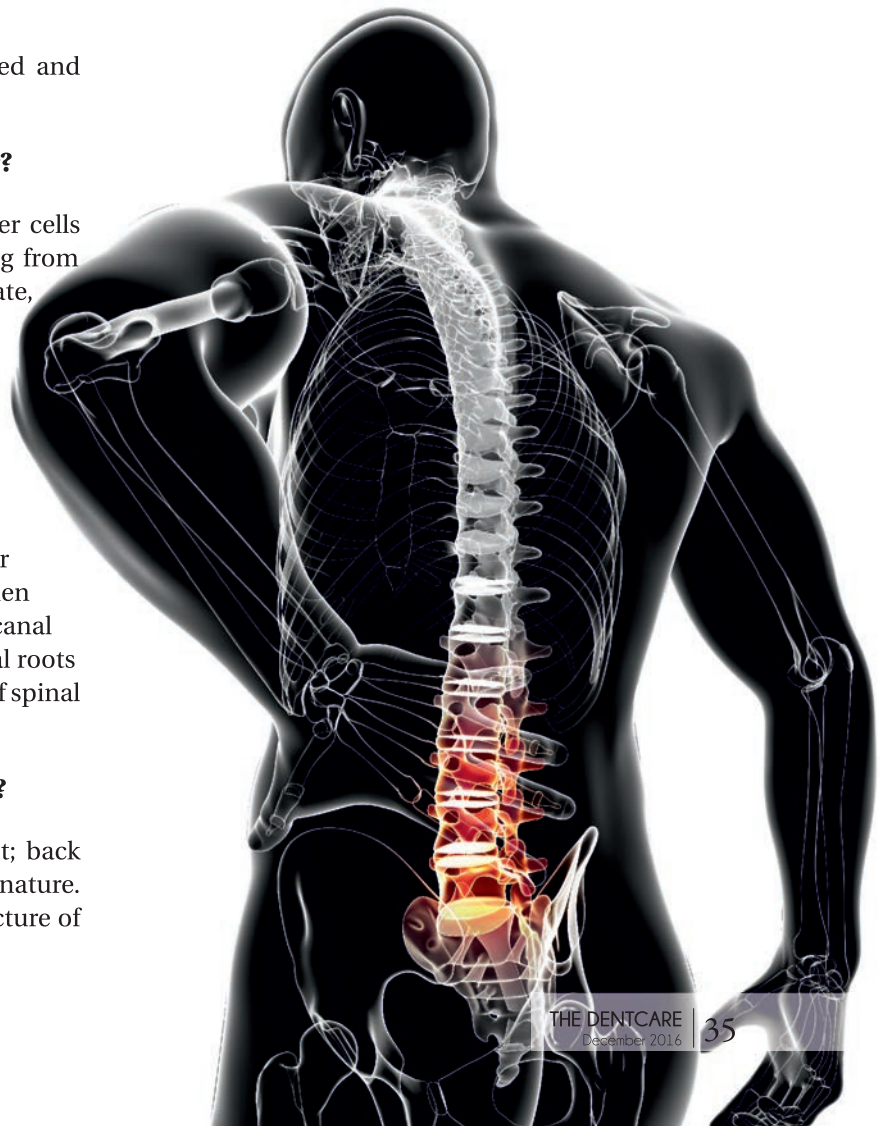
the vertebrae either spontaneously or after minor trauma. Sometimes, the pain may be so severe that patient becomes bedridden.

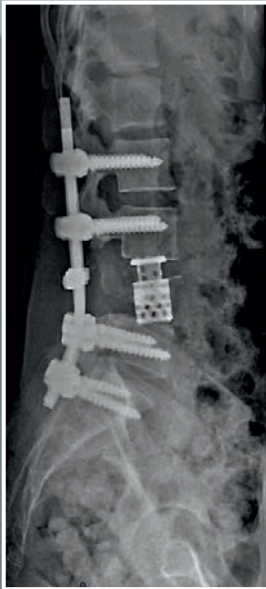
Patient may complain of radiating pain to arms or legs; weakness and numbness of arms or legs, difficulty in walking, difficulty in passing urine and sometimes paraplegia (paralysis of both legs) or quadriplegia (paralysis of both arms and legs).

These features may be associated with other signs of cancer such as loss of weight, appetite, fever etc.

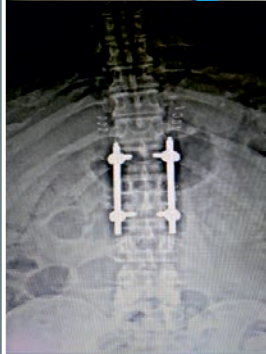
Diagnosis of Spine cancer

Routine X-ray, Computerized Tomography (CT) Scan, Magnetic Resonance Imaging (MRI) scan, blood tests, bone scan etc. are the non-invasive diagnostic tests done initially followed by CT guided/image guided percutaneous or open biopsy to establish the type of cancer.





Showing complete removal of L4 vertebral body (Total en bloc spondylectomy) and reconstruction with expandable titanium vertebral body cage in a spine tumour patient



Showing healed scars of keyhole(MIS) spine surgery and X-rays of spinal instrumentation through keyhole technique in fracture spine due to metastasis

Spinal Cancer Symptoms

- Tingling or burning sensation
- Weakness in arms or legs
- Difficulties in balance
- Incontinence or loss of bowel control
- Loss of sensitivity to hot or cold
- Difficulties in reaching, walking, grasping or carrying
- Sexual dysfunction
- Paralysis in 1 limb or all 4

Management of spine cancer

Various modalities are available to alleviate the back pain due to spinal metastasis. They include radiotherapy, spinal surgical fixation in fractures and medical pain management. Spine surgery may be necessary in spinal cord compression and spinal fractures. Spine surgery deals with decompressing the spinal cord and roots. Currently, severe and complex spine surgeries can completely remove the entire vertebrae affected by tumour in selected cases by a technique called Total En-bloc Spondylectomy.

Role of minimally invasive spine surgery in spinal metastasis

Minimally invasive spine surgery or key hole/pin hole surgeries can help dramatically in certain group of patients. These surgeries have small incisions, less bleeding and faster recovery. Injecting bone cement into the fractured vertebrae through pin holes-vertebroplasty-can significantly reduce pain.

As the incidence of cancer in our population is on the rise, many patients develop symptoms related to cancer spreading to spine. Sudden onset of back pain, weakness of legs, difficulty in passing or controlling urine etc. in an elderly patient or in a patient with a history of cancer should be immediately reported to the doctor.

KUDOS!!!

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WORLD DISABLED DAY

Mr. Vipin V. Roldant 

Chief Consultant Psychologist
Department of Psychology,
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Sunrise Hospital
Ernakulam, Kerala, India



World disabled day is the day we honour the people who are disabled. It may not be their fault that they are disabled but why we call them disabled is because, their body would not allow them to act like normal people. Some of them have the disabilities by birth or it happened later by their fates. However, they were started to be called as 'disabled'.

Disable or Able???

It is quite natural that there may be a question which can pop up in mind that 'who is disabled and who is abled'. Not having an eye or not trying to see, even after having eyes is the real problem? There are some people having good physique without using it productively calling others as disabled. Actually who is disabled here? That needs to be found.

If a person is disabled by his mind and good in physique, is as same as a disabled person. Why because the negative thoughts in his mind will make him disable.

The Living Legends

Nick Vujicic, world's renowned person and well-known motivational speaker, by birth he has no limbs and totally disabled, but he has survived or overcome all of his constraints and motivating thousands by his life. There were times he was about to commit suicide and swallow the bitter of loneliness, but he has taken a decision that 'he is never going to give up in life' and now thousands are gathering to listen him. Nick is physically disabled, but he does everything as normal people do and that is motivating the people who had been thinking like they are disabled.

When it comes to Kerala, there is another person called 'Pakru', well known actor in "Mollywood" industry who is dwarfed. He was a mimicry artist and from that level he has grown up as an actor in "Mollywood". He would have lived like a joker by covering himself from others but, he has acknowledged his talents and added his name in Guinness Book.

There is another person named Joby Mathew who has got only his upper body strength, with a disabled lower body part. But he never gave up in his life, went to gym and worked out hard and made his arms strong and represented India at World Arm Wrestling competition. As we know Arm Wrestling requires lot of strength from legs but Joby played with his arms and made everyone proud. The efforts he has taken is bigger than we take in our life, so we need to put efforts at least one percentage out of ten. If we are taking these kinds of efforts we can make some positive changes in our life.

Are 'You' Disabled?

All the above mentioned examples are really a great inspiration to all of us.

Along with this, it is important to discuss about the alarming rate of suicides, as we need to think whether those who ended their life had any disability physically or mentally. There are people with both the hands, saying I can't work and there are people without hands, but still wish to work. Then, actually who is disabled? Nowadays people are dying in their early stages of their life due to diabetes or obesity. With proper exercises and lifestyle they would have live a healthy life. They were not physically disabled; they were disabled mentally. So the real disability is in our mind, not in physique.

It is the time to 'Think'...

People like Nick, Joby, Pakru and Rachel, a pilot with no hands but flies an aeroplane shows us that the real disabilities are in our mind, the thought process we have towards our limitations is our disability. Hence we need to identify that and move ahead in life. If a person is disabled by his mind and good in physique, is as same as a disabled person. It is because the negative thoughts in his mind will make him disable. He will be leading a miserable life and may end with suicide. At the same time, even if a person is disabled physically with positive thought he/she can lead a good life.

Make your mind perfect and positive; overcome all your physical disabilities. If a person is mentally strong, all other disabilities are nothing. Think positive and have the courage to overcome your disabilities through a positive mind. World disabled day is not only for the people who are disabled physically, it is also for the people who are mentally disabled. Make your mind positively charged and go ahead in your life....



MY EXPERIENCE WITH DENTCARE

Dr. Thomas Manjooran 

Dean
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Digital Dentistry has arguably been the biggest advancement in years for both dental labs and practices. In-lab scanners, milling machines, and wax printers now offer labs the ability to merge old-school techniques with new technology.

I am a big supporter of CAD/CAM restorations, and DentCare has been providing me with the state-of-the-art CAD/CAM restorations. Today scanners, milling units, and printers will always be tools in a technician's arsenals and I find DentCare has been investing in updating their arsenals.

I believe that dentists will continue to demand the best for their patients and that they will seek out fine craftsmanship from their laboratory partners and DentCare has been providing just that.

What I really appreciate is that DentCare has not sacrificed Quality for Quantity and has been maintaining their levels of quality by using technology responsibly and resisting the "factory" philosophy.

I wish DentCare the best in all their future endeavors.



**DO WE NEED
TO PRACTICE
YOGA!!!**

*Integration of
personality*

The word 'Yoga' is derived from Sanskrit root “yuj” which means 'join' or 'unite'. This may be taken as the union of body, mind and soul, and is used in the literature both as an end as well as means. As an end, yoga signifies 'integration of personality' at the highest level. Good health is the right of every human being. But this right depends on individual, social and environmental factors. Along with environmental or social factors to a large extent, we can develop a better immune system and a better perception of oneself so that other conditions do not affect us adversely and we can achieve good health. Health is a positive concept. Positive health does not mean merely freedom from disease, but it also include a jubilant and energetic feeling of well-being with an amount of general resistance and capacity to easily cultivate immunity against specific offending agents. Yoga is one of the most powerful drugless systems of treatment. It is having its own concept of wellness which has been scientifically understood and presented by many. Yoga can be adopted as lifestyle for promoting our physical and mental health.

Yoga is an integral part of our lifestyle. It removes the impurities from the level of mind and unites everything with the spirit. For instance, insomnia could be connected to stress, anxiety or depression. You have to address that issue instead of merely taking medication. This way, you have a wider perception of your own mind, body, thoughts and emotions and there is more clarity and you are able to guide your prana (life force) in a positive way to progress in life. One can start practicing Yoga at any given moment of time and you may start with meditation or directly with pranayama without even doing the asanas (postures). Make sure that when you practice yoga asanas, you do not just stretch the body because the mind has to be with the body. You cannot be watching television or reading the newspaper because if your awareness is not there, the asanas would not have much effect on you. But if each stretch is synchronized with the breath and awareness, your practice will become a yogic practice.

Side Effects and Risks

- ▶ Yoga is generally low-impact and safe for healthy people when practiced appropriately under the guidance of a well-trained instructor.
- ▶ Overall, those who practice yoga have a low rate of side effects, and the risk of serious injury from yoga is quite low. However, certain types of stroke as well as pain from nerve damage are among the rare possible side effects of practicing yoga.
- ▶ Women who are pregnant and people with certain medical conditions, such as high blood pressure, glaucoma (a condition in which fluid pressure within the eye slowly increases and may damage the eye's optic nerve), and sciatica (pain, weakness, numbing, or tingling that may extend from the lower back to the calf, foot, or even the toes), should modify or avoid some yoga poses.

Yoga can be broadly classified into four streams as Swami Vivekananda puts them as Work, Worship, Philosophy and Psychic Control.

- The path of work involves doing action with an attitude of detachment to fruits of action. This brings steadiness of mind.
- The control of emotions is the key to the path of worship. It helps to control the emotional instabilities by properly harnessing the energy involved in it.
- The path of Philosophy is for attaining the intellectual sharpness and happiness.
- The path of Psychic Control enables us to culture our minds for achieving success in almost all endeavors of our lives. It gives a practical and easy approach to reach higher states of consciousness.

There is point where the concepts of Yoga and Modern medicine meet. No one can blame others. Every point of time one area of treatment needs the support of other. Yoga practice results in changes in gene expression that boost immunity at a cellular level. And it does not take long: the researchers believe the changes occurred while participants were still on the mat, and they were significantly greater than a control group who went on a nature hike while listening to soothing music. Yoga also helps to boost immunity by simply increasing overall health. As you breathe better, move better and circulate better, all the other organs function better. Yoga has massive curative effects on several disease conditions. After three months of yoga practice migraine sufferers have fewer and less painful migraines. The cause of migraines is not fully understood, but it could be a combination of mental stressors and physical misalignment that create migraines and other issues. Hunching over a computer or cell phone with your shoulders up and head forward causes over lifting of your trapezius and tightening of the neck. This pulls the head forward and creates muscle imbalances that can contribute to headaches and migraines. Yoga has answers to insomnia. Eight weeks of daily yoga significantly improved sleep quality for people with insomnia. Twice-weekly yoga sessions helped cancer survivors sleep better and feel less fatigued. This can be attributed to yoga's ability to help people deal with stress. "Sleep issues are like anxiety. Your head can't stop spinning; you do not know how to relax." Regular yoga practice is

associated with mindful eating, an awareness of physical and emotional sensations associated with eating. By causing breath awareness, regular yoga practice strengthens the mind-body connection. The awareness can help you tune in to emotions involved with certain cravings, and yoga breathing exercises can help you slow down and make better choices when cravings strike.

Modern medicine and Yoga are rational, scientific and universal in outlook and hence are natural allies bound to come together. Their combination has the potential to provide us with a holistic health science that will be a boon for the psychosomatic health of our masses. Improved health of the general population will result in reduction of pressure on our hospitals, which are understaffed, over-crowded and fund-starved. Yoga and modern medicine are not exclusive, but complementary systems. Their enlightened collaboration will have a significant impact on our health care system.

The study of anatomy and physiology is a great meeting point for modern medicine and Yoga. Yoga therapists and practitioners can benefit from the intricate and detailed 'break down study' of modern medicine where the body is broken down into many systems, then into many organs, many tissues and finally into billions of cells. On the other hand the Yogic "wholistic" view of the PanchaKosha (the five sheathed existence) can help modern doctors realise that we are not just, 'one-body' organisms but have four more bodies that are equally if not more important. We are a manifestation of the Divine and have, not only the physical body but also an energy body, a mental body, a body of wisdom and a body of eternal bliss. An understanding of the psychic anatomy and physiology of Nadis, Chakras and Bindus when coupled with the practical understanding of the details of the physical body



can inspire real knowledge of the self in all health care personnel.

Modern medicine has come to realize the importance of prevention only in recent times but the role of preventive medicine is still very limited. The Yogic lifestyle that includes the Yama and Niyama can help prevent a great many of the modern diseases like Hepatitis B and AIDS. Cleanliness that is taught through Soucha can help prevent and limit the spread of contagious and infectious diseases. Mental peace and right attitudes of Yoga such as PratipakshaBhavanam (taking the opposite view), Samatvam (equanimity of mind) and Vairagya (dispassionate detachment) can help prevent many of the psychosomatic ailments running wild in the modern world. If these Yogic values as well as practices such as Asanas, Pranayamas, Kriyas and Dhyana are inculcated in the modern human race, we can prevent virtually all diseases that abound today. Communicable diseases as well as degenerative disorders of the body can be well prevented in a true manifestation of the adage, "A stitch in time saves nine". However the 'will' to do so is also of paramount importance as there is no money or fame in prevention and we do not know what we have prevented because we have prevented it from happening! Yoga is an excellent tool of promotive health that can enrich modern medicine. The practice of Yoga leads to the efficient functioning of the body with homeostasis through improved functioning of the psycho-immuno-neuro-endocrine system. A balanced equilibrium between the sympathetic and parasympathetic wings of the autonomic nervous system leads to a dynamic state of health.

Yoga doesn't negate the use of drugs and other methods of modern medicine. Patanjali in his Avatar as Charaka didn't shy away from the need to use medicinal herbs as well as surgical methods when necessary for the benefit of the patient. The system of Ayurveda is more in tune with the Yogic views of healing in this regard but definitely the modern antibiotic treatment of infectious diseases as well as the emergency medical and trauma management techniques of modern medicine must be understood to be life-savers in times of need. No Yoga therapist in his or her right

mind should try to treat an acute myocardial infarction or an unconscious accident victim by Yoga alone. A symbiotic relationship between the techniques of modern medicine and Yoga can help the patient more than a dogmatic refusal to see the 'other side'.

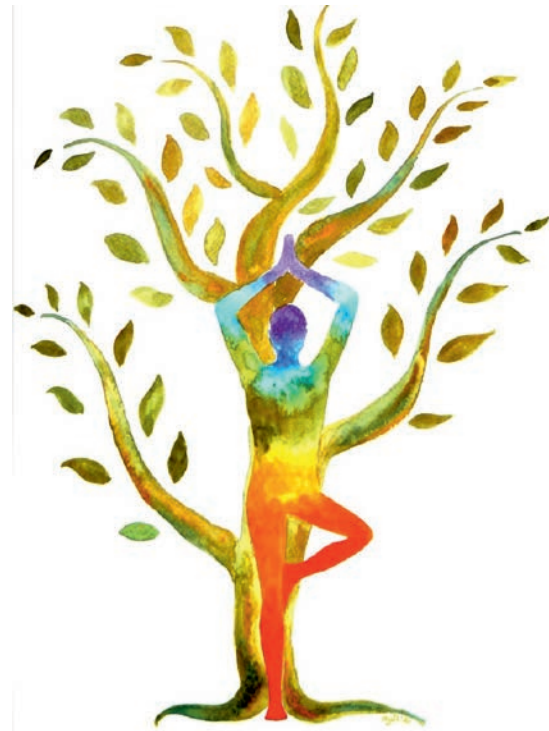
Yoga as a physical therapy has a lot to offer patients of physical and mental handicaps. Many of the practices of physiotherapy and other physical therapies have a lot in common with Yoga practices. Mentally challenged individuals can benefit by an improvement in their IQ as well as in learning to relate to themselves and others better. As their physiological functions improve with Yoga, the combination of Yoga and physical therapies can benefit such patients as well as those with learning disabilities. Musculoskeletal problems can be treated by the combination to improve function as well as range of movement, strength and endurance abilities. Balance and dexterity can also be improved by the combination therapy. The use of Yoga can help those recovering from accidents and physical traumas to get back on their feet faster and with better functional ability.

This is a place that modern medicine and Yoga can help give a patient as well as normal person the proper wholistic values of a proper diet. Modern research shows us the benefits of the 'break-down' study of foods on the basis of their physical and chemical properties. This is important for the person to know how much of each constituent of food is to be taken in the proper quantity. Most medical doctors understand that it is important to relax in order to get better. The problem is that, though the doctor tells the patient to relax, they do not tell them how to do so and maybe in fact they do not know the answer themselves in the first place. Shavasana has been reported to help a lot in hypertensive patients and practices such as Savitri Pranayama, Chandra Pranayama, Kaya Kriya, Yoga Nidra, AnulomaVilomaPrakriyas and MarmanasthanamKriya are also available to the person requiring this state of complete relaxation. It is important to remember that relaxation on its own is less effective than relaxation following activity.

Aging is inevitable and Yoga can help us to age gracefully. Modern medicine tries to help retard

aging and help people look better by costly surgical methods that are only an external covering over the underlying aging process. Healthy diet, regular exercise, avoidance of negative habits and cultivation of the positive habits and a healthy lifestyle can help us to age with dignity. Yoga can also help our 'silver citizens' retain their mental ability and prevent degenerative disorders such as Parkinson's disease, Alzheimer's and various other dementias. Physical accidents such as falls can be minimized and many an artificial hip, knee or shoulder replacement surgery can be avoided. Women are the chosen ones blessed with the responsibility of the future of our human race. Healthy mothers give birth to healthy babies and a healthy start has a great future ahead. Yoga has a lot to contribute in combination with modern medicine to the health status of womankind. Puberty and menopause become easier transitions with the help of Yoga and many eminent Yoginis have said that they were not even aware of a single menopausal symptom as they went through this difficult period in a woman's life.

The actual field of convergence between them lies in the recognition that physical laws of matter are binding only to a certain point; beyond them, man can find inner freedom, using his will power and proper techniques to select his habits and to gain control of his visceral and emotional functioning, according to the principles of learning. Psychology tells us that our biological functions are bound to the rhythmicity of earthly phenomena, but it also has demonstrated that our performances can be controlled by instrumental training, which is not influenced by circadian rhythms. It looks as though scientific investigations from one side are showing man bound to the earth, like any other living creature, while from another side they seem to prove that the human potentials are greater than the forces binding us – which is exactly what the Vedas have been teaching for thousands of years. Cure is the conglomeration of all Yoga, Modern medicine, ayurveda etc. Our body is aware of the fact, but man splits the fact.





Kerala State
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KODACKK'17
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49TH IDA KERALA STATE DENTAL CONFERENCE

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TENTATIVE SCIENTIFIC PROGRAMMES KODACKK'17

PRECONFERENCE COURSES (20th Jan)		KEYNOTE LECTURES (Jan 21, 22)	
1	Fixed Orthodontics for General practitioners. (Lecture)	1	Trouble shooting in Endodontics.
2	Implantology for beginners. (Lecture & Hands-on)	2	Digital Radiography, versatility in dental practice.
3	Incorporating Lasers in dental practice. (Lecture & Hands on)	3	Ethical marketing of dental practice.
4	Management of Mutilated Teeth – Post & Core (Lecture & Hands-on)	4	Excellence in aesthetic restorations.
5	Minor Oral Surgery & surgical extraction. (Lecture & Hands-on)	5	Excellence in Ceramic Crown & Bridges.
6	Practice Management (Lecture)	6	Tips & Tricks for successful Implantology in GP.
7	Strategic Implantology: A novel and superfast approach in Dental Implantology (Lecture & Live Demo)	7	Managing Malocclusion in mixed dentition.
8	Pulpectomy & Stainless Steel crowns. (Lecture & Hands-on)	8	Medications in dental practice.
9	Rotary Endodontics simplified. (Lecture & Hands-on)	9	Procedural emergencies in day to day practice.
10	Smile designing. (Lecture & Hands-on)	10	Perio-Aesthetics for general practitioners.

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	Non Member	Rs. 6000	Rs. 6500	Available
Delegate	IDA Member	Rs. 1000	Rs. 1500	Rs. 1500
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* Registration kit, Inaugural dinner, Gala banquet dinner, Two Lunches, Gift, Entry to Scientific sessions & Trade Exhibition. ** Registration kit, Entry to Scientific sessions & Trade Exhibition. *** Letter from the Head of institution is mandatory for Student/Intern registration. **** No certificate of participation. Only eligible for Inaugural dinner, Gala banquet dinner, Two Lunches, Entry to Scientific sessions & Trade Exhibition. ***** RC Regn + Twin sharing Basis Accommodation, Check in 12noon 20th Friday- Check out 7pm 22nd Sunday including Sat, Sun Breakfast & attractive gift for 1st 50. ***** 1 Preconference lecture, lunch & inaugural Dinner 20th Jan, Entry to scientific lectures, Tradefair, FREE IDA membership 2017, Paper presentation, Delegate kit.

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Nutraceuticals: Elixir for future





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Globally, nutraceuticals are gaining prominence and becoming a part of the average consumer's daily diet. The key reasons for this have been the increased incidence of lifestyle diseases the world over, increase in life expectancy and inadequate nutrition due to the current lifestyle choices people make today.

Nutraceutical is a broad term used to describe any product derived from food sources with extra health benefits in addition to the basic nutritional value found in foods. They can be considered non-specific biological therapies used to promote general well-being, control symptoms and prevent malignant processes.

Globally, nutraceuticals are gaining prominence and becoming a part of the average consumer's daily diet. The key reasons for this have been the increased incidence of lifestyle diseases the world over, increase in life expectancy and inadequate nutrition due to the current lifestyle choices people make today. In fact, in developing nations, mortality due to nutrition related factors is nearly 40 percent, underscoring the need for nutraceutical products, to balance the nutritional intake of the individual.

The philosophy behind nutraceuticals is to focus on prevention, according to the saying by a Greek physician Hippocrates (known as the father of medicine) who said "let food be your medicine". Their role in human nutrition is one of the most important areas of investigation, with wide-ranging implications for consumers, health-care providers, regulators, food producers and distributors. The present world focuses more on research and drug formulations based on nutraceutical for life style diseases and cancers, making it the most demanding trillion dollar industry across the globe.

The availability of nutraceuticals and related products generally depends on the source. They can be classified on the basis of their natural sources, pharmacological conditions, as well as

chemical constitution of the products. Most often they are grouped in the following categories: dietary supplements, functional food, medicinal food, and Pharmaceuticals.

A dietary supplement represents a product that contains nutrients derived from food products, and is often concentrated in liquid, capsule, powder or pill form. Although dietary supplements are regulated by the FDA as foods, their regulation differs from drugs and other foods. According to their generally accepted definition, functional food is a category which includes whole foods and fortified, enriched or enhanced dietary components that may reduce the risk of chronic disease and provide a health-benefit beyond the traditional nutrients it contains.

The present world focuses more on research and drug formulations based on nutraceutical for life style diseases and cancers.

Medical food is formulated to be consumed or administered internally, under the supervision of a qualified physician. Its intended use is a specific dietary management of a disease or condition for which distinctive nutritional requirements are established by the medical evaluation (on the basis of recognized scientific principle).

Pharmaceuticals are medically valuable components produced from modified agricultural crops or animals. The term is a combining of the words

“farm” and “pharmaceuticals”. Proponents of this concept are convinced that using crops (and possibly even animals) as pharmaceutical factories is much more cost effective than conventional methods, with higher revenue for agricultural producers.

Over the years nutraceuticals have attracted considerable interest due to their potential nutritional, safety and therapeutic effects. They could have a role in a plethora of biological processes, including antioxidant defenses, cell proliferation, gene expression, and safeguarding of mitochondrial integrity.

Therefore nutraceuticals may be used to improve health, prevent chronic diseases, postpone the aging process (and in turn increase life expectancy), or just support functions and integrity of the body. They are considered to be healthy sources for prevention of life threatening diseases such as diabetes, renal and gastrointestinal disorders, as well as different infections.

A wide range of nutraceuticals have been shown to impose crucial roles in immune status and susceptibility to certain disease states. They also exhibit disease modifying indications related to oxidative stress including allergy, Alzheimer's disease, cardiovascular diseases, cancer, eye conditions, Parkinson's diseases and obesity.

With the increase in life expectancy and subsequent increase in lifestyle diseases, nutraceuticals have emerged as a necessity for consumers, especially in developed markets like the US. Nutraceuticals are often defined as any food or part there of which provides health

benefits including prevention or treatment of disease. This definition has now broadened to include functional ingredients such as vitamins, minerals, amino acids, fatty acids and probiotics etc.

India is one of the country, where the market of nutraceuticals and dietary supplements are growing enormously. Nutraceuticals and dietary supplements are sold in India under the name of Fast Moving Healthcare Goods (FMHG).



Of course India has passed Food Safety and Standard Act in a year 2006 –a modern integrated food law to serve as a single reference point in relation to regulation of food products including nutraceutical dietary supplements and functional food. The food safety and standard act has needed to still make considerably substantive with infrastructure and appropriate stewardship for it to match with

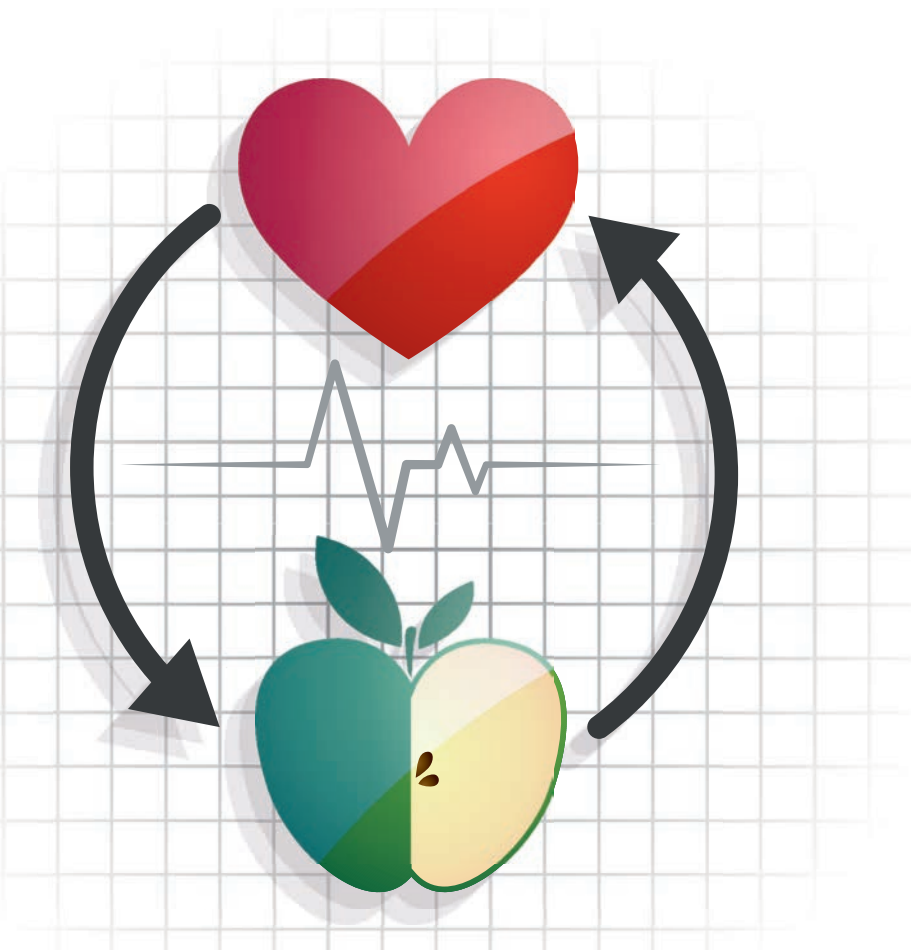


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international standards of USA and Europe. But till now India does not have the strict and clear cut guidelines related to the this fastly growing field. Many agencies viz. HADSA (Health Food and Dietary Supplements Association), NIN (National Institute of Nutrition), FDTRC (Food and Drug Toxicology Research Centre), NNMB (National Nutrition Monitoring Bureau) are working to set up a guidelines for this pharmerging field.

Among the BRIC countries Brazil leads the vitamins and minerals market. China is home to the second largest vitamins and minerals market, led by multi-vitamins, while its single minerals category displays rapid growth. Among the developed country manufacturing, packaging, labelling and marketing of nutraceuticals and dietary supplements are regulated by the well furnished and managed government regulatory body. But in the developing country like India there is no government body which can regulate the pharmerging and enormous growing INR 44 billion market field through to 2012 from INR 27 billion market in 2009. Ernst & Young in their research pointed out that the global nutraceuticals market is US \$117 billion (INR 5148 billion), of which India has less than 1% share but which is growing at a CAGR of 18% per annum.

In the developing country there is no such a law like Bioterrorism act as in USA so the standard of the dietary supplements manufacturer are of very much concerned regarding safety and quality. Recently, USFDA has warned India and other developing countries about selling of recalled samples of the dietary supplements from the USA market are being making their way through the medium of internet to the market of developing countries. Though in the country like India government is running a national rural health program there is no authority which can control the advertising regarding the dietary supplements as well as nutraceuticals where most of the human resources reside in the rural areas of the country, with most of them illiterate. Any misleading information that has been printed on to the label of the dietary supplements may lead to the mass consumption of the supplements and that may cause a huge casualty to the human resource.



India is one of the country, where the market of nutraceuticals and dietary supplements are growing enormously.



ADDICTED TO THE WHITE POISON

As we all know sugar, one of the most palatable choices of all ages is been always the talk of town in terms of causing harm to health.

Every day we are consuming an excessive quantity of added refined sugar and the fact is that human body cannot tolerate this much amount of refined carbohydrates. The vital organs in the body are actually damaged by this gross intake of sugar.

Sugar has become an inevitable part of food industry as to hook to get you buy more. In today's fast food world, in the food labels it is often masked in myriad names like glucose, corn syrup solids, malt syrup, lactose etc. It creates a hormone cascade when consumed that starts a positive feedback loop in the body resulting a craving. It is said that sugar is eight times more addictive than cocaine.

“Dr. David Reuben, author of Everything You Always Wanted to Know about Nutrition says, “white refined sugar is not a food. It is a pure chemical, extracted from plant sources, purer in fact than cocaine, which it resembles in many ways. Its true name is sucrose and its chemical formula is $C_{12}H_{22}O_{11}$. It has 12 carbon atoms, 22 hydrogen atoms, 11 oxygen atoms, and absolutely nothing else to offer.” The chemical formula for cocaine is $C_{17}H_{21}NO_4$. For all practical purposes, the difference is that sugar is missing the “N”, or nitrogen atom.”

Sugars are actually refined from natural food sources having high sugar ratio. Through heating, mechanical and chemical processing all the vitamins, minerals, proteins, fats, enzymes and indeed every nutrient is been removed until only the sugar remains. Sugar cane and sugar beets are cut into small pieces and pressed out to juice, to which water is added. After heating this liquid, lime is mixed and when moisture is boiled away, the remaining fluid is pumped into vacuum pans to concentrate the juice. The liquid starts to crystallize and the remaining residues (like blackstrap molasses) are spun away. The crystals are then heated to the boiling point and passed through charcoal filters. The condensed crystals are then bleached to snow-white sugar by the use of pork or cattle bones.

That's it...all the 64 food elements are been destroyed; from calcium to sulfate are removed. The vitamins, amino acids, vital enzymes, unsaturated fats, and all fibers are gone. The natural sugars contained in fruits and vegetables are well-adjusted by the fiber content and the nutrients within them. But this is not the case of sugars from other processed foods.

When you are enjoying the sugary foods you are actually dumping extra calories. Body will pull all the vital nutrients from healthy cells to metabolize the incomplete food. Calcium, sodium, potassium and magnesium all are taken from various parts of the body to make use of the sugar. Finally, body finds it hard to get rid of the poisonous residues and as a result carbonic poisoning occurs. Blood becomes thicker and sticky, hindering the blood flow to the miniscule capillaries, supplying blood to various parts of the body. Bones become osteoporotic due to calcium deficiency as so much calcium is been used to neutralize the sugar effects.

According to the American Heart Foundation, added sugars "contribute zero nutrients, but many added calories that can lead to extra pounds, or even obesity, thereby reducing heart health."

The term Diabetes is always been linked with sugar and this is mainly because pancreas fail to produce adequate insulin when the blood sugar level rises. As the blood sugar level upswings, the pancreas over-reacts discharging too much insulin. Therefore, Hypoglycemia occurs leaving one with the "exhausted" feeling as the blood sugar level becomes lower than it should be.



High blood sugar level in the blood stream also leads to confuse mental state. Our brain is very sensitive and reacts to quick chemical changes within the body. When sugar level rises the friendly/beneficial bacteria in our intestines begin to die which produces B vitamin complexes. Consequently Glutamic acid, essential for the brain function gets affected as they are the directive "go", "no-go" neural enzymes regulated by vitamin B. This will affect the brain's ability for short-term memory function and numerical calculative skills.

According to Sugar Science.org, more than 8,000 independent studies on sugar and its role in heart disease, type 2 diabetes, liver disease and more; "Over time, consuming large quantities of added sugar can stress and damage critical organs, including the pancreas and liver. When the pancreas, which produces insulin to process sugars, becomes overworked, it can fail to regulate blood sugar properly. Large doses of the sugar fructose also can overwhelm the liver, which metabolizes fructose. In the process, the liver will convert excess fructose to fat, which is stored in the liver and also released into the blood stream. This process contributes to key elements of metabolic syndrome, including high blood fats or triglycerides, high cholesterol, high blood pressure and extra body fat in the form of a sugar belly" says Dr. Robert Lustig.

Dental decay which is one of the major oral health problem is also very much related to sugar consumption. The constant contact of sweet sticky food damages the tooth. Sugars can be readily metabolized by many bacteria involved in dental biofilm formation, generating acid byproducts that can lead to demineralization of the tooth structure.

To infer, it may be harder to avoid sugar completely from our life. But we can choose healthy diet options avoiding harmful processed foods. Try to eat fruits as a whole rather than packaged fruit juice which is high in fructose with low fibre content, added with artificial colors and additives. Practice homely food and limit the bakery stuffs. Especially for kids, train and make them understand the need of healthy food picks for healthy living.











Seems to be like a lot of work? Without doubt a great deal of job, but so worth it! Always remember this phrase - "When the diet is wrong medicine is of no use, when the diet is correct medicine is of no need."

Just be bold to say; Sugar? No, thanks! I'm sweet enough!



EVENT CALENDAR

THIS DECEMBER 2016 – JANUARY 2017

	2nd International Congress on Neuro immunology and Therapeutics www.neuroimmunology.conferenceseries.com	01 - 03 December Atlanta, USA	Hilton Atlanta Airport ☎ +1 888 843 8169 📠 +1 650 618 1417
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COGNITIVE RESTRUCTURING



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Consider two youngsters waiting for their driving test, Mr. Sam sat worrying about whether he had passed, doubting his driving skills, and imagining being told that he could not get the license. Meanwhile, Mr. Arun's father joked around with him after he took his driving test, which kept Mr. Arun from focusing on possibly failing. Thanks to Arun's father distracting antics, Arun did not think about potential negative outcomes. As it turned out, both of them passed the test, but only Mr. Sam had endured a stressful, anxious waiting period.

This story gives us a meaningful insight that, when people change their thoughts, they will be preventing their mental process from contributing to their anxiety.

Some cognition is illogical or unhealthy and can create or exacerbate unhealthy patterns of behaviour or mental states. We have to focus on identifying and changing thoughts that are self-defeating or dysfunctional, particularly thoughts that lead to increased level of anxiety and depression.

In our brain, cortex pathway produces worries, obsessions, and interpretations that create anxiety and depression and the amygdala in our brain initiates bodily reactions that make up the fight, flight or freeze response. How can you change the way these parts of the brain respond? In order to do so, you need to make changes in the brain's circuitry. The brain is made up of billions of connected cells. They form circuits that hold your memories, produce your feelings, and initiate all your actions. These cells are called neurons and they are the basic building blocks of the brain. They are the reason that your brain has neuron plasticity; the ability to change itself and its response. On the basis of your experiences, the neurons in your brain are capable of changing their patterns of responding. Cognitive restructuring is one of the ways to change its structure.

Cognitive Restructuring

Cognitive restructuring is one of the ways to change negative circuitry in our brain structure. Cognitive restructuring to compact anxiety intervenes directly in the cortex pathway. When we discuss self-defeating or dysfunctional thoughts, we are focused on processes that occur in the cortex, primarily in the left hemisphere. Of course, whenever we tried to change our thoughts, we are trying to modifying the cortex in some way. Our thoughts are not simply a result of neurological and chemical process in the brain but in cognitive restructuring, the thoughts you think are used to rewire your brain.



AND REWIRE THE BRAIN



Anxiety-igniting thought

It's no use trying. Things will never work out for me.

Something's going to go wrong. I can feel it.

I need to focus on this thought, doubts, or concern.

I must be competent and excel at everything I do.

Everyone should like me.

I can't stand this.

I can't help worrying about this.

I don't want to disappoint other people.

I can't handle this situation.

Coping thought

I am going to try, because then there's at least a chance that I'll accomplish something.

I don't know what's going to happen. These kinds of feeling have been wrong before.

Cortex, you have spent too much time on this and need to move on.

No one is perfect. I am human and expect mistakes at times.

No one is liked by everyone, so I'll encounter people who don't like me.

This isn't the end of the world. I'll survive.

Worrying never fixes anything. It only upsets me.

Trying to please everyone is impossible and stresses me out. Let it go.

I am a competent person, and even though I don't like this situation, I can get through it.

Of course, you will have to be vigilant about recognizing anxiety, igniting thoughts and substituting coping thoughts, but it is worth the effort. By deliberately thinking coping thoughts at every possible opportunity, you can rewire your cortex to produce coping thoughts on its own. Remember, you are changing your neural circuitry.

Thought stopping

When people work on changing thoughts, they often complain that they cannot get rid of negative thoughts. How to tackle this issue?

You might be successful in interrupting a thought by specifically telling yourself "stop!"; this technique is called thought stopping. However, the next step is crucial. If you replace the thought with another thought, it is more likely that you will keep the first thought out of your mind. Let's say you are working in your garden and keep worrying that at any moment you will encounter a snake. Tell yourself "stop!" and then begin thinking about something else: a song on the radio, the names of the flowers you intend to plant in your garden, ideas you have for a loved one's birthday present - basically anything captivating and, ideally, pleasant. By replacing the anxiety-provoking thought with something else that engages your mind, you make it more likely that you would not return to that thought.

Therefore, **"Don't erase- replace!"** is the best approach with anxiety igniting thoughts. If you notice that you are thinking something like, I can't handle this, focus on replacing that thought with a coping thought, such as this is not easy, but I will get through it. By repeating this coping thought to yourself, you will strengthen a more adaptive way of thinking and active circuitry that will protect you from anxiety. It takes some practice, but your new thoughts will eventually become habitual.

PERIODONTIUM IN PREGNANCY



Pregnancy granuloma

Apart from these generalized gingival changes, pregnancy may also give rise to the formation of tumor-like growths (epulides), along the gingival margin. A number of terms for this lesion have been suggested, such as pregnancy tumor, epulis gravidarum and pregnancy granuloma. Of these, pregnancy granuloma is preferred, because the histologic structure is similar to the structure in pyogenic (telangiectatic) granuloma. The reported frequency of pregnancy granulomas varies from 0% to 9.6%.

There appears to be no correlation between the appearance of this lesion and the month of pregnancy, although patients may notice the lesion more often in the second or third trimester, owing to its growth or the complications of its vascular nature. The lesion often shows rapid growth, although it seldom becomes larger than approximately 2 cm in diameter. A pregnancy granuloma is generally a pedunculated, soft growth of interdental origin; is fiery red; and often has small, fibrin-covered areas. Pregnancy granulomas frequently bleed readily when touched and have a tendency to recur rapidly.

The cause of these lesions appears to be an

accentuation of the inflammatory reaction of gingivitis in pregnancy, including the endocrine and bacterial changes described earlier. Additionally, the dramatic enlargement in these lesions may be partly related to the hormonal effect on collagen metabolism. The sequential changes in levels of estradiol and progesterone during pregnancy and immediately after parturition suggest that these hormones are important in the regulation of collagenolytic activity. Progesterone and methylhydroxyprogesterone inhibit collagenase production in the culture of postpartum uterine explants. The inhibition of collagenase production by these two hormones is apparently concentration dependent.

It is well known that endogenous gingival collagenase is the key enzyme involved in physiologic collagen turnover. During pregnancy, the inhibition of collagenase production ultimately results in accumulation of excess collagen within the connective tissue, thereby supplying a possible additional mechanism for the dramatic gingival enlargement of some pregnancy granulomas.

Treatment

The patient should be informed that recurrence is likely to occur during pregnancy, whereas regression is observed soon after delivery.

Any large lesions creating functional or esthetic problems or appears to be having deleterious effect on adjacent periodontium can be removed under local anesthesia and may be surgically excised with the use of scalpel. However, there is a risk of excessive hemorrhage due to the vascularity of the condition. Thus, an electrocautery or laser may be employed if necessary for hemostasis.

Periodontitis

Periodontitis is a destructive inflammation of the periodontium affecting approximately 30 percent of women of child-bearing age. The process

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involves bacterial infiltration of the periodontium. Toxins produced by the bacteria stimulate a chronic inflammatory response, and the periodontium is broken down and destroyed, creating pockets that become infected. Eventually, the teeth loosen.

Though gingivitis is often associated with periodontitis, gingivitis does not necessarily develop into periodontitis because the putative pathogenic bacteria in periodontitis differ from those associated with gingivitis and because periodontitis is believed to be dependent on different immune mechanisms.

Potential Association between Periodontal Infections and Adverse Systemic Outcome

Recently, the effect of maternal periodontal health on prematurity and low birth weight has become of interest. A mother with significant loss of gingival attachment is more likely than a mother with healthy periodontium to give birth to a low-birth-weight infant.

Although the mechanisms by which periodontal diseases may cause preterm birth and/or low birth weight have not been elucidated, one proposed mechanism relates to the seeding of urinary tract infections with bacteria from periodontal disease in the mother.

Another proposed mechanism is the nature of the periodontal disease per se. It is known that inflamed periodontal tissues

produce significant amounts of proinflammatory cytokines, mainly interleukin 1 beta (IL-1), IL-6, prostaglandin E2, and tumor necrosis factor alpha (TNF-), which may have systemic effects on the host. Endotoxin derived from periodontal pathogens in pregnant women with periodontal disease might signal preterm labor through primed monocyte-macrophage activation in the peripheral blood and decidua. At this point, the relationship of maternal periodontal disease with socioeconomic deprivation should not be overlooked, and the role of prenatal oral health counseling should not be underestimated.

The management of periodontitis in pregnancy is based on early diagnosis and deep root scaling. Women with pre-existing periodontal disease can reduce the risk of recurrence or worsening disease during pregnancy through proper oral hygiene. The American Academy of Periodontology recommends that all women who are pregnant or planning to become pregnant undergo a periodontal examination and any necessary treatment.

Dental caries

One fourth of women of reproductive age have dental caries, a disease in which dietary carbohydrate is fermented by oral bacteria into acid that demineralizes enamel. Pregnant women are at higher risk of tooth decay for several reasons, including increased acidity in the

oral cavity, sugary dietary cravings, and limited attention to oral prenatal oral health maintenance. Early caries appears as white, demineralized areas that later break down into brownish cavitations. Fillings or crowns are a sign of previous caries. Untreated dental caries can lead to oral abscess and facial cellulitis. Children of mothers who have high caries levels are more likely to get caries. Pregnant patients should decrease their risk of caries by brushing twice daily with fluoride toothpaste and limiting sugary foods. Patients with untreated caries and associated complications should be referred to a dentist for definitive treatment.

Tooth erosion

Erosion of tooth enamel may be more common because of increased exposure to gastric acid from vomiting secondary to morning sickness, hyperemesis gravidarum, or gastric reflux during late pregnancy. Management strategies aim to reduce oral acid exposure through dietary and lifestyle changes, plus the use of antiemetics, antacids, or both. Rinsing the mouth with a teaspoon of baking soda in a cup of water after vomiting can neutralize acid. Pregnant women should be advised to avoid brushing their teeth immediately after vomiting and to use a toothbrush with soft bristles when they do brush to reduce the risk of enamel damage. Fluoride mouthwash can protect eroded or sensitive teeth.

Drug use in pregnancy

The major concern of drug administration during pregnancy is the potential of teratogenic adverse effects because most drugs cross the placenta by simple diffusion. Thus, the dental clinician must

make a clear assessment of the risks and benefits prior to prescription of medications to pregnant patients. Drugs should be used in pregnancy when they offer a clear benefit to the mother, and the least potentially toxic drug should be selected when alternatives are available. The type and dose of the drug as well as the time of gestation should be evaluated carefully. In human pregnancy, the time from 2 to 4 weeks from the last menstrual period represents the predifferentiation period of the fetus. During this period, the human fetus is relatively resistant to teratogens. The period of maximum teratogenic risk is organogenesis, which occurs from the end of the predifferentiation period until the end of the 10th week after the last menstrual period.

The local anesthetics and vasoconstrictors used in dentistry are safe to administer to the pregnant or lactating patient, provided that aspiration is performed to minimize the risk of intravascular injection. The use of local anesthetics enables definitive treatment and elimination of any source of pain, which may in turn allow the avoidance of prolonged use of systemic analgesics and antibiotics. Among antibiotics, penicillin V and amoxicillin are the safest and most commonly prescribed drugs during pregnancy. Clindamycin, erythromycin, and metronidazole also appear to be safe, with the exception of the estolate form of erythromycin, which may produce cholestatic hepatitis.

Tetracyclines are definitely contraindicated during pregnancy, because they are deposited in the dental tissue of the fetus during the calcification stage and cause tooth discoloration.

Among analgesics, acetaminophen is widely accepted for use during pregnancy since it has shown no evidence of teratogenicity. The absorption and disposition of acetaminophen in normal doses are not altered by pregnancy. The drug does not prolong bleeding time, unlike aspirin, and is nontoxic to the newborn.

The use of non steroidal anti-inflammatory drugs (NSAIDs), however, is less favorable during pregnancy since drugs in this class have been shown to inhibit labor and to prolong the length of pregnancy. Despite being nonteratogenic, acetylsalicylic acid (ASA), it has been stated, may cause maternal and fetal hemorrhage, as well as prolonged labor, if given before parturition.

It has also been stated that the use of aspirin during pregnancy, especially of chronic or intermittent high doses should be avoided especially in the second and third trimesters.

Ideal timing for dental treatment

Although pregnancy is not a contraindication to dental treatments, the clinician should consult with the patient's physician to clarify individual treatment issues, especially when dental emergencies arise during the first trimester. Unless emergency treatment is required, it is advisable to defer elective treatment during the first trimester because of the potential vulnerability of the fetus.

The second trimester is the safest time to perform routine dental care. In this period, treatment planning should include elimination of potential problems that could arise later in pregnancy or during the immediate postpartum period. The early part of the third trimester is still a relatively good time to provide routine dental care. However, no elective dental treatment is advisable late in the third trimester.

Extensive reconstructive procedures such as crowns and partial dentures should preferably not be performed at any time during pregnancy.

Dental radiographs

As a result of modern features such as high-speed film, filtration, collimation, and use of lead aprons, dental radiography has been quite safe. However, a concern may arise from taking dental radiographs of a pregnant patient. When taking a radiograph of a pregnant patient is inevitable, the dose of radiation to be given and the time of gestation are two important factors to consider.

Conclusion

Pregnancy is a unique period of various physiologic changes that support the formation and maturation of new life. Every gestational woman should be encouraged to seek medical and dental care during her pregnancy, as failure to treat developing problems affects the health of both the mother and the unborn child. However, a network of health care professionals who are trained and comfortable in treating patients during pregnancy is also required for the overall well-being of these patients. Providing dental care for pregnant women will help remove potentially harmful bacteria from dissemination and possibly leading to other complications. Dental care professionals should educate themselves by gaining a basic understanding of the underlying physiologic changes of pregnancy, influences related to the use of medications or illicit drugs or substances during gestation, and how these may interact with the delivery of dental care.



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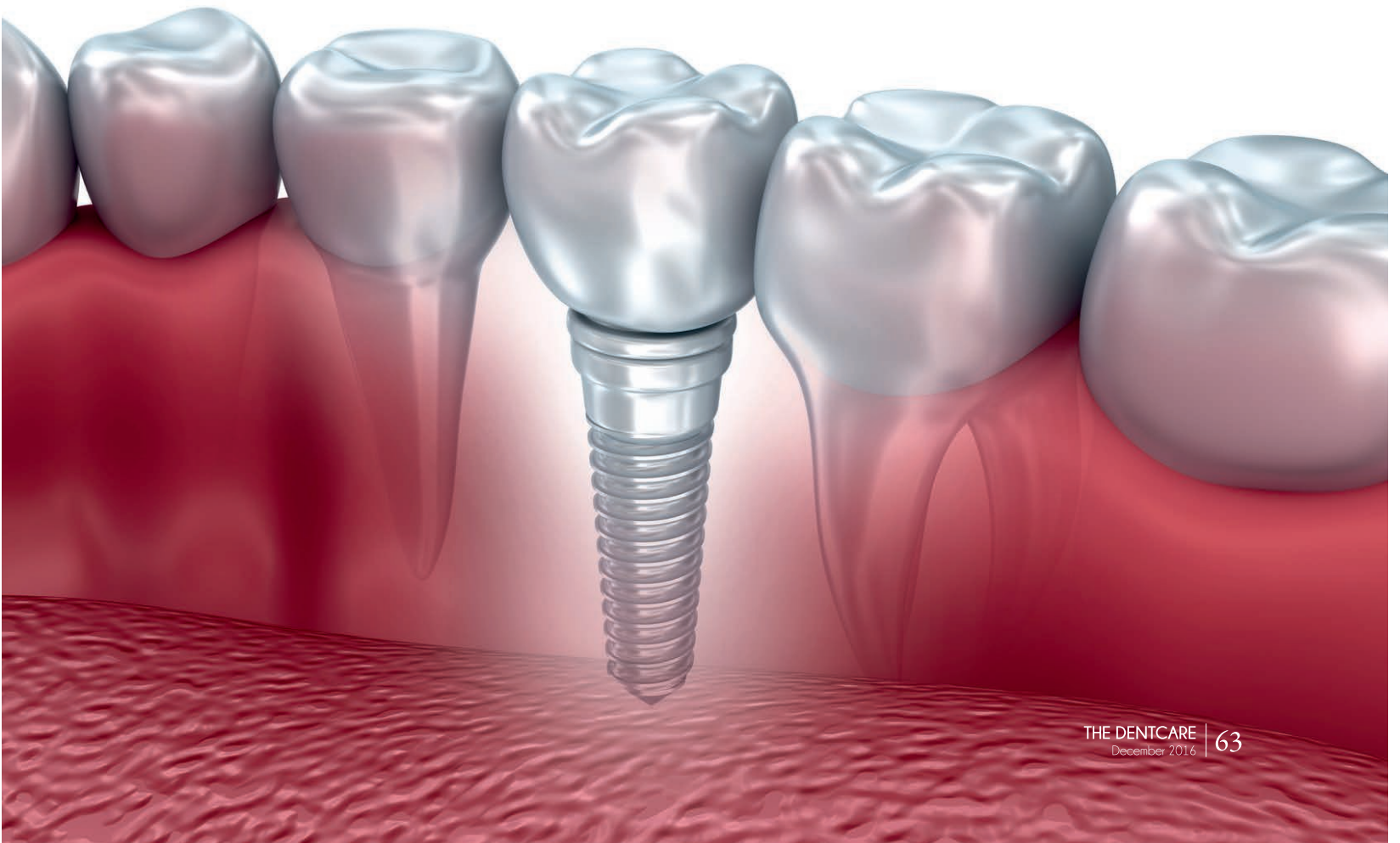
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DENTAL IMPLANTS

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Tooth loss at any age is a challenging experience that can spoil one's self-esteem and confidence.

Whether it is one tooth that is missing or multiple teeth, dental implants provide options that will offer the most functional and aesthetic resemblance to natural teeth. They are an excellent long term option to restore the smile and to take care of the overall quality of life.

In fact, the development and use of implants is one of the biggest advances in dentistry over the past four decades.

Dental implants are made of Titanium and other materials that are compatible with the human body. They resemble posts, which are surgically placed in the upper or lower jaw and function as a sturdy anchor for the replacement teeth.

Most patients find that a dental implant is secure, stable and a good replacement for their lost teeth.

Whether or not a dental implant can be placed is case dependent and should be discussed carefully with the dentist first.

Once the implant is placed into the jaw bone, we have to wait until the bone heals and grows around the implant (osseointegration), thus holding it in place. Later, artificial teeth can be fixed on the implants. The size, shape and shade of the artificial teeth would be customised and made to match the natural teeth.

Advantages of a Dental Implant

- Re-establishes lost lip support and therefore minimizes the appearance of wrinkles.
- Preserves the bone.
- Eliminates the discomfort caused by ill-fitting dentures.
- With increased stability, Dental Implants help restore natural chewing capacity.



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At DentCare, we have the training, skill and experience to assist the dentist right from case planning/design, cost estimation up to the final delivery of the prosthesis. We believe that prosthetic driven implant placement is the key to successful implant treatment.

We offer support with 'simple surgical stents' (for single or multiple implants). DentCare also provides CAD/CAM surgical guides that can be fabricated subsequent to clinical and radiographic evaluation with Computed Tomography (CT) or Cone Beam Computed Tomography (CBCT).

DentCare also offers a variety of **abutment solutions** as mentioned here

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- Titanium Abutment (Cast)
- Cobalt-Chromium Abutment (Cast)

Implant Prostheses from DentCare

Different variants of Implant Prostheses are offered by DentCare and may be made available as **Screw Retained or Cement Retained crowns/bridges**.

The material options available are

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- DentCare Zirconia Premium
- DentCare Zirconia Classic
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- Lava
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- Zenostar
- Direct Metal Laser Sintered (DMLS) in Cobalt-Chromium
- DentCare Nova
- Procera
- E.max
- Titanium
- PEEK
- PMMA



- Metal with Light Cure Facing

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The variants available are:

- Titanium (Milled) with acrylisation-manufactured using CAD/CAM technology
- Titanium (Cast) with acrylisation
- Direct Metal Laser Sintered (DMLS) in Cobalt-Chromium with acrylisation-manufactured using CAD/CAM technology
- Cobalt-Chromium (Cast) with acrylisation
- PEEK (Milled) with light cure composite-manufactured using CAD/CAM technology
- Procera Implant Bridge (Titanium)

Implant-supported Overdentures

They are available as Telescopic Overdentures, Bar Attachment Overdentures or Ball Attachment Overdentures.

Implant-supported Overdentures are offered in

various material options namely,

- Titanium (Milled)-manufactured using CAD/CAM technology
- Titanium (Cast)
- Direct Metal Laser Sintered (DMLS) in Cobalt-Chromium-manufactured using CAD/CAM technology
- Cobalt-Chromium (Cast)
- PEEK (Milled) with light cure composite-manufactured using CAD/CAM technology

Benefits

- Minimum number of implants required is at least two per jaw
- Removable for easy care
- Structured to give full implant-supported function
- Restores quality of life in a cost effective and timely manner
- Preserves the bone and prevents further deterioration of facial structure
- Prevents health problems that would normally occur with complete tooth loss



Conclusion

Over the course of time, Dental Implants have become the treatment of choice for tooth replacement. Millions of people world wide have a better quality of life because of them. A dedicated case selection and treatment planning are the fundamental pillars to a successful implant treatment.

DentCare Dental Lab, with decades of experience and passion to create healthy and beautiful smiles is your trusted partner in choosing the right implant prosthetic solution for your patients.

It is important to ascertain before selecting any Implant system that the complete range of prosthetic components are available with the supplier.





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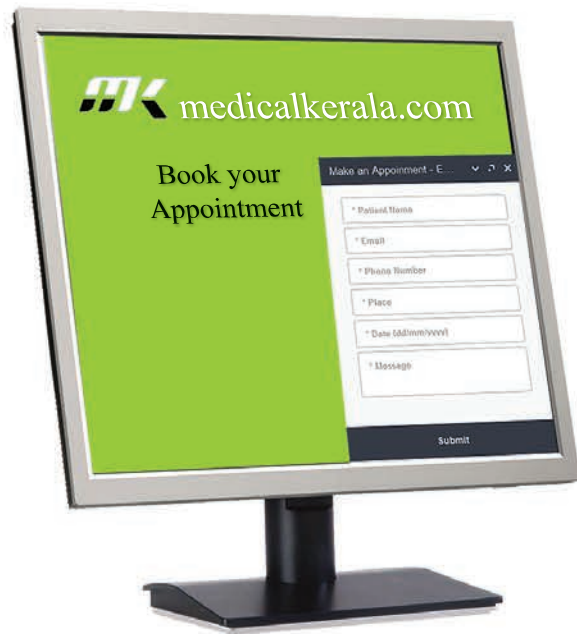
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