

Vol. 2 Issue - 1 July 2017



Healthy India Initiative...

Foods for Hypertension & Heart Patients
Acute Respiratory Infections
Suicide in Adolescent
Menopause in Women
Visual Impairment in Elderly
Vector-borne Diseases
World Hepatitis Day
World Breastfeeding Week
National Eye Donation Fortnight
National Nutrition Week
World Spinal Cord Injury Day
World Rabies Day



Central Health Education Bureau
Directorate General of Health Services
Ministry of Health & Family Welfare





Dear Readers,

With great pleasure Central Health Education Bureau, Directorate General of Health Services, Ministry of Health and Family Welfare brings out July 2017 issue of 'Healthy India Initiative' with synergised teamwork of esteemed colleagues.

In this issue attempt is made to address health related issues, like diet for Hypertensive Heart Patients, Acute Respiratory Infection in children, Suicides in adolescents, Menopause in women and Visual impairment in elderly. For upcoming Monsoon season, an overview of Vector borne diseases is added. World Hepatitis Day, World Breastfeeding Week, World Spinal Cord Injury Day, National Nutrition Week, World Rabies Day & National Eye Donation Fortnight have also been included to generate awareness.

The onset of monsoon is marked by arrival of vector borne diseases like Malaria, Dengue, Chikungunya. Many advances have been made in vector-borne diseases control but resurgence of vector-borne diseases continues due to social, anthropogenic environmental degradation and consequential ecological changes. Human carelessness, excesses, ignorance and habits of conquest & leisure, contribute directly to the biological niches that microorganisms exploit. At this juncture, to prevent microbial opportunism, we all need to desist from doing anything which affects the environment adversely.

Massive change in human behaviour like reduction in breeding spots of vectors and personal protection through full body clothing, use of vector repellents and bed nets is the most effective key to control and prevent these diseases. In the event of outbreak of such disease, maintain calm and don't panic, follow health advisory, maintain healthy & hygienic practices in & around home and attend to health facility in case of symptoms.

At last, contributions made by my colleagues in Directorate General of Health Services, Ministry of Health and Family Welfare are duly acknowledged. Efforts made by CHEB staff & consultants for bringing out this issue within time frame are appreciated. As always, a word of criticism and suggestions towards improving the magazine are welcomed at healthyindia-cheb@gov.in.

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Published by

Central Health Education Bureau,
Directorate General of Health Services,
Ministry of Health and Family Welfare
5, Kotla Road, New Delhi-110002.

Diet for Hypertension & Heart Patients



Hypertension, commonly known as High Blood Pressure, is a major public health challenge in India and its prevalence is rapidly increasing among both urban and rural populations. In fact, hypertension is the most prevalent chronic disease in India that eventually causes health problems like heart attack and stroke with increased number of disability & death.

Most of the times, a person having high blood pressure doesn't experience any symptoms. In fact, many patients may not experience any symptoms at all for years. Very rarely few patients feel dizzy, have headache and also get nose-bleeds. Chronic hypertension puts a lot of stress on the blood vessels and muscles of the heart. Hypertension if left untreated, can lead to heart attack and stroke.

Modern lifestyle changes, pollution, competition in life and development of technology are responsible for a growing burden of hypertension. The cardiovascular risk factors especially hypertension, dyslipidemia, diabetes, overweight or obesity, physical inactivity and tobacco use are on the rise.

Heredity, aging, obesity, diabetes & lack of exercise are all associated with Hypertension but most important is consumption of high amount of salt,

sugar, fats, alcohol & tobacco along with lack of roughage, vitamins & minerals.

In spite of all the above reasons that can cause hypertension, it is possible to control high blood pressure by making dietary changes of limiting the intake of salt, sugar, fats, alcohol & tobacco and increasing roughage, vitamins & minerals in the diet. It is an area where major health gains can be achieved through the implementation of primary care interventions and basic public health measures targeting diet, lifestyles and the environment.

Diet for Healthy Heart: Eating a healthy balanced diet is important for everyone but it becomes more significant in presence of hypertension. The following tips can, therefore, be followed by the hypertensive heart patients as well as by normal population to prevent being hypertensive:

- Limit daily intake of salt, saturated fat, trans-fats and cholesterol in foods.
- Eat a diet rich in a variety of vegetables, fruits &, whole-grain rich in fibre.
- Non vegetarian can eat fish, especially oily fish,
- Consume food rich in potassium, calcium and magnesium.

Diet for Hypertension & Heart Patients

- Cut down on beverages, foods with added sugar, preservatives, tobacco products and alcohol.
- Balance calorie intake and physical activity to achieve or maintain a healthy body weight.

Recommended foods: There are a number of risk factors that a person cannot control such as age, family history, gender, and race but there are certain factors one can choose for betterment and diet is one of them. A diet rich in potassium, magnesium and fibres can help control blood pressure. The following foods are recommended for persons suffering from hypertension and Cardio-vascular diseases:

Leafy Green Vegetables: Leafy green vegetables such as lettuce, cabbage, turnip greens, beet greens, spinach are rich in potassium, which helps kidneys to get rid of more sodium through urine. This, in turn, lowers blood pressure. Frozen vegetables contain as many nutrients as fresh vegetables and they're easy to store but vegetables available in "Can Tin" often have added sodium which is not good for health hence better avoided.



Berries: Berries, especially blueberries, are rich in natural compounds called flavonoids. Therefore, consuming these compounds might prevent hypertension and help to reduce high blood pressure. Blueberries, raspberries, and strawberries are easy to add to diet. These can be used in breakfast cereals. Keep frozen berries on hand for a quick and healthful dessert.

Beets: Beets are high in nitric oxide, which can help open the blood vessels and lower the blood pressure. Moreover, nitrates in beetroot juice help lowering the blood pressure within just twenty four hours. Beets can be consumed as juice or simply cooked or eat the whole root. Beetroot is delicious when roasted or when added to stir-fries and stews. It can also be baked into chips.

Skimmed Milk and Yogurt: Skimmed milk is an excellent source of calcium and is low in fat. One can also opt for yogurt if don't like milk by incorporating fresh or dry fruits. Both of these are important elements of a diet for lowering blood pressure

Oatmeal has high-fibre, low-fat and low-sodium and is a way to lower the blood pressure. If taken for breakfast, it's a great way to fuel up for the day.

Banana Eating foods that are rich in potassium is better than taking supplements. Slice a banana into cereal or oatmeal for a potassium-rich addition. One can also take it at one go and have it for a quick breakfast or snacks.

Salmon, mackerel and fish: Fish are a source of lean protein in a diet. Fatty fish like mackerel and salmon are high in omega-3 fatty acids, which can lower blood pressure, reduce inflammation, and lower triglycerides. In addition to these fish sources, trout fish contains vitamin D, which has blood pressure-lowering properties.

Pistachios: Pistachios are a healthy way to decrease blood pressure by reducing peripheral vascular resistance and heart rate.

Olive oil: Olive oil is an example of a healthy fat that has blood pressure-lowering properties. Olive oil contains polyphenols, which are inflammation-fighting compounds that can help to lower blood pressure. Olive oil is good and two to three servings can be taken daily. It is also a great alternative to canola oil, butter, or commercial salad dressing.

Pomegranates: Pomegranates are a healthy fruit that one can enjoy alone or as a juice. Drinking a cup of pomegranate juice once a day for four weeks may help lowering blood pressure in the

Diet for Hypertension & Heart Patients

short term. Pomegranate juice is excellent with a healthy breakfast.

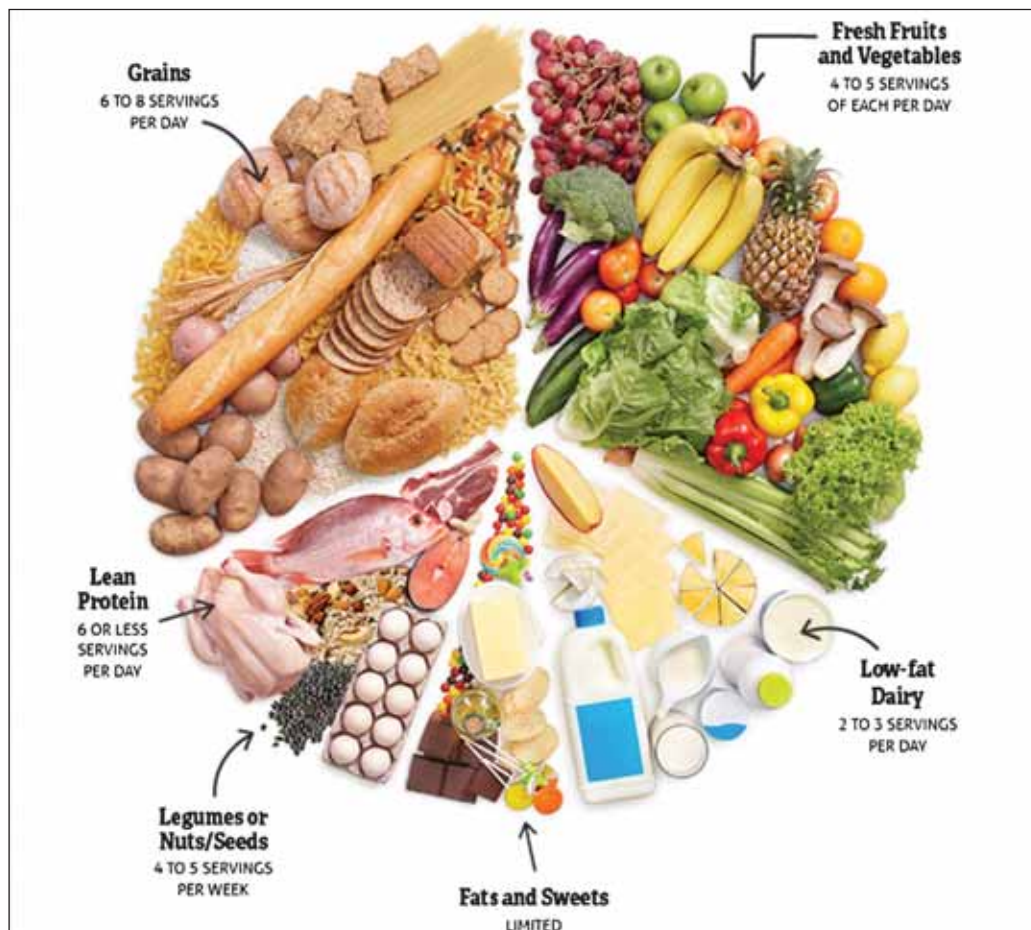
DASH Diet is “Dietary Approaches to Stop Hypertension”. It calls for lean protein, low-fat dairy, lots of fruits and vegetables, whole grains, poultry, fish & nuts — and about 25 percent of its total daily calories from mostly good fats, like olive and canola oils. This diet is high in potassium, calcium, and magnesium, as well as protein and fibres. The DASH eating plan also has other benefits, such as lowering LDL (“bad”) cholesterol, which can reduce the risk of getting heart diseases along with lowering blood pressure.

The DASH eating plan used along with other lifestyle changes can help to control Blood Pressure. It is important to know that if Blood pressure is not very high, one may be able to control it entirely by changing eating habits; losing weight if overweight;

doing regular physical activity; and cutting down on alcohol consumption.

Healthy eating diet plan for hypertensive is dependent on the built of patient, nature of work, amount of exercise done, and the anti-hypertensive drugs consumed. Assistance of dietitian is of great help. The diet should be based on 1,800-2,000 calories a day with 27% of total calories from fats, 18% from protein, and 55% from Carbohydrate. The diet should have 150 mg Cholesterol, 2,300 mg Sodium, 4,700 mg Potassium, 1,250 mg Calcium, 500 mg Magnesium & 30 gm of Fibre.

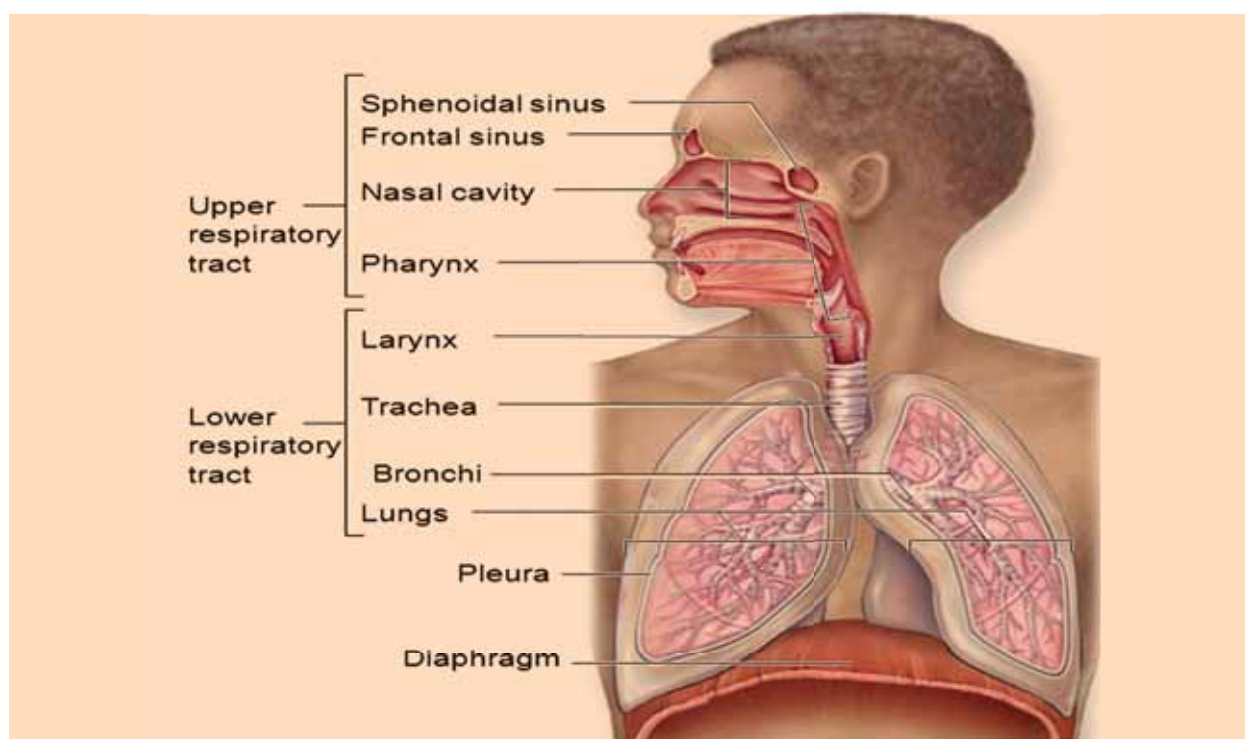
The under mentioned Indian Diet plan for high blood pressure is a sample plan of what kind of food one must eat in order to control high blood pressure. The foods included in the chart will help to control blood pressure to great extent. No healthy eating diet plan can meet the requirement of all hypertensive patients but tentative example is as under:



Diet for Hypertension & Heart Patients

MENU	AMOUNT	CALORIES (KCAL)	PROTEIN (GMS)
EARLY MORNING			
Soaked almonds	4 no.	20	3
Roasted flax or sunflower seed	1 tsp	---	---
Tea (without sugar)	1cup	35	4
Marie biscuit	2	56	-
		Total calories-91	Protein – 4
BREAKFAST			
stuffed parantha of whole wheat atta	2 small	270	7
Curd (Avoid adding salt, add jeera powder)	1 cup / 50 gms	30	1.5
		Total calories-300	Protein-8.5
or			
2 Egg White omlette with capsicum	(2 egg white)	150	7
Brown Bread Slice / 1 Roti	2 no. / 1 no.	100	3
		Total calories-250	Protein-10
MID MORNING			
Apple / Banana / Guava / Grape fruit / Orange	1 med (50- 60 gms)	40	
Green Tea (No Sugar)			
LUNCH			
Vegetable brown rice pulav / Vegetable Oats Upama	1 soup bowl (50 gms uncooked)	250	3
Cucumber, carrot, beetroot and onion raita	1 bowl	75	3.5
Mix veg salad	1 bowl	30	2
		Total calories-355	Proteins-8.5
or			
Chappati / Phulka (little or no fat)	3 medium size	255	9
Capsicum, lady finger, parval, & other veg	1 med bowl	70	1.5
Dal, drumstick sambar	1 med bowl	130	6
Salad	1 med bowl	30	2
		Total calories-485	Proteins-18.5
EVENING			
coffee, green tea, tea, beet root juice	1 cup	35	4
Puffed Rice or 2 wheat rusks or water melon	1 bowl	100	3
		Total calories-280	Protein-7
DINNER			
whole wheat flour chapati/phulka	3 medium sized	255	9
Mix veg/drumstick/palak vegetable	1 med bowl	70	1.5
Curd / kadhi / dal	1 small bowl	30	1.5
		Total calories-435	Proteins-14.5
10 minutes, walk post lunch + 1 cup warm water with lemon or Green tea (no sugar)			
BED TIME			
Cow's Milk (no sugar)	1 cup	75	2
	TOTAL	Total calories=1546	Total protein=50

Acute Respiratory Infections



Acute Respiratory Infection (ARI) is one of the most common causes of deaths in children under five years of age. Acute respiratory infections of the upper respiratory tract are known as upper respiratory tract infections and those involving lower respiratory tract as lower respiratory tract infections. The upper respiratory tract consists of the airways from the nostrils to the vocal cords in the larynx, including the para-nasal sinuses and the middle ear. The lower respiratory tract covers the continuation of the airways from the trachea and bronchi to the bronchioles and the alveoli.

Acute respiratory infection is an infection of upper or lower respiratory tract that interferes with normal effortless breathing. *Acute respiratory infections* are not confined to the respiratory tract alone and have systemic effects due to the possible extension of infection or microbial toxins, inflammation. Further diphtheria, pertussis (whooping cough), and measles are vaccine-preventable diseases that usually have a respiratory tract component.

Upper respiratory tract infection includes common cold, sinusitis, ear infections, acute pharyngitis or tonsillitis, epiglottitis, and laryngitis. Majority of upper respiratory tract infections have a viral origin and are caused by rhinoviruses, respiratory syncytial viruses (RSVs), influenza & para-influenza viruses, human meta-pneumovirus, adenoviruses and corona virus.

Most of these viral respiratory infections are self-limiting but their complications may have lasting permanent consequences. Acute viral infections predispose children to bacterial infections of the sinuses and middle ear, and aspiration of infected secretions may result in lower respiratory tract infection. Further pharyngitis may cause acute rheumatic fever, heart disease, nephritis. Similarly, middle ear infections may cause lifelong deafness.

Common cold: It is a viral disease of upper respiratory tract that primarily affects nose, throat, sinuses and voice box. Signs and symptoms may begin in less than two days following exposure. Symptoms include coughing, sneezing, headache, running nose, discharge

Acute Respiratory Infections

from eyes, sore throat and fever. Children usually recover in five to ten days. Some symptoms may last up to three weeks. In some patients especially those with other underlying health problems, Pneumonia may occasionally develop.

The common cold virus is typically transmitted through airborne droplets, direct contact with infected nasal secretions, or contaminated objects. Hand-to-hand and hand-to-surface-to-hand contact is of more importance for transmission of disease.

Symptomatic relief is the objective of treatment and medicines like Paracetamol and Phenergan are used.

For prevention, regular hand washing appears to be most effective in reducing the transmission of common cold viruses, especially among children. If someone is down with common cold in house, then keep the house and household items such as towels, table & bed cover clean and use disposable tissues instead of cloth handkerchiefs to avoid constant reinfection. Healthy nutritive diet, if needed, Zinc & Vitamin C supplements may be useful.

Acute Pharyngitis: Acute pharyngitis is caused mostly by viruses in young children. Mild pharyngeal redness and swelling and tonsil enlargement are typical. Streptococcal infection is more common in older children but may also occur in children under five year of age often leading to post streptococcal sequelae such as acute rheumatic fever causing irreversible damage to heart and kidney.

Acute pharyngitis with the development of a membrane on the throat is nearly always caused by *Corynebacterium diphtheriae*. However, with almost universal vaccination of infants with the diphtheria-tetanus-pertussis vaccine, diphtheria is rare.

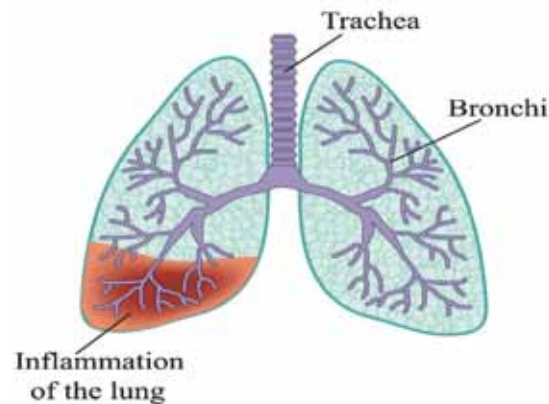
Acute Ear Infection: Acute ear infection occurs with almost one-third of upper respiratory tract infections. With inadequate care, it may lead to perforated eardrums and chronic ear discharge in later childhood and ultimately to hearing impairment or deafness. Chronic ear infection following repeated episodes of acute ear infection is commonly seen in children. The associated hearing loss may be disabling and may affect learning. Repeated ear infections may lead to mastoiditis and may spread the infection to the

coverings of brain & spinal cord causing meningitis which may be fatal.

The main respiratory syndromes that threaten the lives of children are pneumonia, bronchiolitis, and acute obstructive laryngitis (croup). Bacterial pneumonia (including bronchopneumonia) as a primary infection or as a complication of viral infection is by far the most frequent cause of death.

Pneumonia is a form of acute respiratory infection that affects the lungs. The lungs are made up of small sacs called alveoli, which get filled with air when a child breathes. In Pneumonia, these alveoli get filled with fluid or pus which makes breathing painful and limits oxygen intake.

Causes: Pneumonia is caused by a number of bacteria, viruses, and fungi. The most common bacteria are *Streptococcus pneumoniae*, *Haemophilus influenzae*. *Staphylococcal pneumoniae* predominates in the first six months of life and is probably a complication of measles in older children. Respiratory syncytial virus is the most common cause of viral pneumonia in children and *Pneumocystis jiroveci* is one of the most common causes of pneumonia in infants infected with HIV. *Mycoplasma pneumoniae* is more frequent in children over the age of 3 year



Transmission: Respiratory infections spread from inhaling aerosol droplets produced by sneezing or coughing, without covering nose & mouth. Poor personal hygiene when the infected secretions from eyes and nose are carried with unwashed hands is also responsible for spread. The viruses and bacteria that are commonly found in a child's nose or throat can infect the lungs. Further, pneumonia may

Acute Respiratory Infections

spread through blood, especially during and shortly after birth.

Symptoms: The presenting features of viral and bacterial pneumonia are similar. Fever with cough is main symptoms of pneumonia. It is often associated with difficulty in breathing, fast breathing or lower chest wall in-drawing, where the chest wall moves in contrary to moving out during inhalation in healthy children. Stridor & wheezing is more commonly seen in viral infections. Very severely ill infants may be unable to take feed or drink and may also experience unconsciousness, hypothermia and convulsions.

Warning signs which call for a medical consultation are breath rate over 60 per minute, presence of stridor, wheezing, in-drawing chest wall, difficulty in taking feeds, convulsions, abnormally drowsy & sleepy child, blue coloration of fingertips & nails

Risk factors: Most healthy children can fight the infection with their natural defences but children whose immune systems are compromised are at higher risk of developing pneumonia. A child's immune system is weakened by undernourishment or malnutrition, especially in infants who are not exclusively breastfed. Pre-existing illnesses, such as symptomatic HIV infections and measles, also increase a child's risk of contracting pneumonia. Indoor air pollution caused by cooking with wood or dung, in room smoking, and living in crowded rooms increase child's susceptibility to pneumonia. The risk also increases in unimmunised and Vitamin A deficient children.

Treatment: Pneumonia is treated with antibiotics preferably oral and dispersible. Hospitalization is recommended only in severe cases of pneumonia. Most sick children need not be brought to hospitals and can be managed at home with supportive treatment.

Supportive treatment: Repeated acute attacks may cause severe malnutrition and an increased risk of a fatal outcome of acute lower respiratory tract infection. Therefore, during acute respiratory infection, breastfeeding should be continued; moreover, the quantity of food and liquids taken during the illness and during the recovery phase should be increased if the child is to recuperate rapidly. Further supportive measures

include clearing the airway, providing warmth in cold weather, and increasing the moisture in the air by simple measures like hanging wet clothes in the room to soothe the upper respiratory passages. Tight clothing should be loosened because of possible interference with the breathing.

Severe acute respiratory infection cases who fail to respond to initial treatment must be taken immediately to hospital which has facility of intravenous therapy, oxygen therapy, aspiration equipment, and aerosol therapy.

Prevention: Immunization against Hib, pneumococcus, measles and whooping cough (pertussis) & diphtheria is the most effective way to prevent pneumonia.

Nutrition: Exclusive breastfeeding for the first 6 months of life and adequate nutrition later in life are essential to improve natural defences of children. It reduces number of Acute Respiratory Infections and reduce the length of the illness.

Environmental factors such as indoor air pollution by providing affordable clean indoor stoves for cooking and encouraging good hygiene in crowded homes also reduces the number of children who fall ill with acute respiratory infection.

Preventive antibiotics: In children infected with HIV, the antibiotic cotrimoxazole is given daily to decrease the risk of contracting acute respiratory infection.

Bronchiolitis is a common lung infection in young children and infants. It occurs predominantly in the first year of life and with decreasing frequency in the second and third years.



It causes inflammation and congestion in the small airways (bronchioles) of the lung. Bronchiolitis is almost always caused by a virus. Typically, the peak time for bronchiolitis is during the winter months.

Bronchiolitis starts out with symptoms similar to those of a common cold but then progresses to coughing, wheezing and sometimes difficulty in breathing. Symptoms of bronchiolitis can last for several days to weeks, even a month. The usual cause is Respiratory syncytial virus. Other viruses that cause bronchiolitis include influenza & para-influenza viruses.

It presents with rapid breathing and lower chest wall in drawing, fever and wheezing. Presence of vomiting, audible wheezing sounds, breath rate more than 60 breaths per minute, sluggish or lethargic appearance, refusal to drink enough, or breathing too fast to eat or drink and skin turning blue, especially the lips and fingernails (cyanosis) are reasons to seek prompt medical attention.

Flu & Influenza like illnesses: Influenza viruses usually cause URIs in adults but are increasingly being recognized as an important cause of Lower Respiratory Infection (LRI) in children and perhaps the second most important cause after Respiratory syncytial virus.

Influenza, commonly known as "the flu", is an infectious disease with symptoms of cough, sneezing, headache, running nose, discharge from eyes sore throat, muscle pain, and fever.

Transmission is through inhalation of aerosol produced by an infected person during coughing, sneezing without covering of mouth & nose. Hand-to-eye, hand-to-nose, or hand-to-mouth transmission, either from contaminated surfaces or from direct personal contact is important in spread of the disease. Children are much more infectious and shed virus from just before they develop symptoms until two weeks after infection.

Diagnosis: Diagnosis is made by observing the breathing pattern, by listening for abnormal sounds in the patient's lungs during breathing, by checking the nose and ears and throat. In lower respiratory tract infection, other investigations like blood examination, X-ray & Pulse oximetry etc. are done. Sometimes Lung function tests are also useful. If needed, then sputum

examination is also done to know the type of virus or bacteria causing the disease.

Treatment: Plenty of rest and intake of plenty of liquids is useful. Use of paracetamol for fever and muscle aches is effective. Antiviral medication is effective, if given early,

Prevention: Good personal hygiene and frequent hand wash with soap and water, avoid touching eyes, nose or mouth with dirty hands, cover your mouth and nose while coughing and sneezing, avoiding close contact with sick people,

If sick, stay at home, avoid spitting in open, wear face mask when caring for the sick.

Influenza vaccine is recommended for children.

Typically, symptoms are at their worst after 1-2 days. Then they usually gradually ease over several days. An irritating cough may persist for a week or so after other symptoms have gone. Most people recover completely within 2-7 days and don't require hospitalization.

But sometimes in children, the illness starts as upper respiratory tract infection and involves lower respiratory tract also and may be fatal. Presence of following Warning signs and symptoms, calls for immediate medical consultation with doctor:

Warning signs and symptoms:

High grade fever, worsening of cough, coughing up blood or blood-stained phlegm, short & rapid breathing and lower chest wall in drawing, chest pain, rash that do not fade when pressed, severe headache, stiff neck, dislike of bright lights, drowsiness, & disorientation, recurrent vomiting

For effective management of Acute Respiratory Infections in Children, community engagement is essential. Normally parents fail to attend the available health facility and, if at all, very late in the course of the disease making the outcome poor.

Health education to increase the awareness of community in identifying the warning signs, timely & complete immunization; simple supportive therapy at home; promotion of breast-feeding & proper nutrition of all children along with reduced domestic air pollution can result in decrease in illnesses and death due to Acute Respiratory Infections in children.

Suicide



Rahul used to remain depressed in irritable mood with ill-tempered behaviour often with sense of worthlessness. He showed reluctance to go to school and interact with his friends. His academic performance also deteriorated over last few months. Rahul's parents consulted a psychiatrist who warned them not to put extra pressure on him about his studies and future prospects.

But parents, who were quite worried about his board examination and engineering entrance test, continued reminding him regularly about their aspirations, often comparing him with peers. One fine morning when parents were at work, he hanged himself from a ceiling fan with his mother's sari leaving a note *"I can't take the pressure anymore & live up to your expectations, Goodbye"*. Being a teenager is never easy. India tops the world in teen suicides as exam stress and depression become key factors, but other urban pressures are also taking a heavy toll.

The top four risk factors for "health loss" among youngsters in the country are suicides, road injuries, TB and depressive disorders. Globally, on an average one suicide is attempted every three seconds and one death due to suicide takes place every 40 seconds. In India every 90 minutes a teenager attempts to commit suicide and every six hours one succeeds. It raises a question is growing up more difficult than ever?

References are available in ancient Indian texts wherein suicide as a means to avoid shame and

disgrace were glorified. Suicide by starvation, also known as 'sallekhana', was linked to the attainment of 'moksha' and so is Sati, where a woman immolated herself on the pyre of her husband. Similarly Jahuar (Johar), in which Rajput women killed themselves to avoid humiliation at the hands of the invading armies, were practiced.

Risk factors:

Age: More common in teens another peak comes in old age.

Sex: Globally, attempted suicide is commoner in women and completed suicide is commoner in men.

Social support: Marriage is not a strong protective factor for suicide attempts. The quality of marital relationship, emotional warmth, extended family support and ability to handle stresses related to marriage; and child rearing are more important than marital status. Among attempters of suicide, men are more likely to be single and women are more likely to be married. Marital conflict is the commonest cause of suicide among women, while interpersonal conflict is the commonest cause among men.

Education: Low intelligence results in a 2-3-fold increased risk of suicide. Possible explanations are that persons with low intelligence are less able to compete for jobs and therefore acquire lower income and social status. They may also be less efficient in coping with stress.

Urban vs. rural: The suicide and attempted suicide are higher in urban areas because of a variety of stressors related to living and working in cities.



Occupation: There is a fairly strong association between unemployment and suicide, but the nature of this association is complex. Unemployment may drive up the suicide risk through factors such as poverty, social deprivation, domestic difficulties, and hopelessness. Students, housewives account for substantial number suicide cases.

Triggering agents: Negative life events, stress, break up of love relationships & object loss in the absence of support, coping & problem-solving, acts as a trigger to commit suicide. Other suicide triggers include physical illness, bankruptcy, illicit relationships and drug intoxication, sexual abuse, illegitimate pregnancy, interpersonal conflict, and educational burden being the most common triggers,

Mass Suicide pacts almost always involve people well known to each other, mostly spouses, girlfriend, boyfriend, However, there is an emerging trend for cyber-based internet-facilitated suicide pacts which increasingly involve two or more strangers who meet on the internet and share similar world views.

Psychiatric illness: often the person committing suicides had a psychiatric diagnosis, like major depressive disorder, bipolar affective disorder, or schizophrenia; substance abuse conduct disorder, and personality disorder.

Physical illness: Chronic physical illness, abnormal vaginal discharge, dysmenorrhoea, peptic ulcer disease; hypertension, bronchial asthma, arthritis, pain in the abdominal & pelvic regions and tobacco use are risk factors for common mental disorders among women in India. A similar pattern is seen among suicide attempters.

Attempted suicide is of particular interest as it has been found to be one of the predictors. Attempts intended to die are usually planned with high lethality and intentionality while others are more impulsive with low intentionality and lethality.



The role of the media is becoming increasingly relevant and has been identified as playing a crucial role in the dispersion of information about novel suicide methods. Extensive media reporting in past is often blamed for the subsequent increase in popularity of certain mode of suicide. But media can also have a positive influence. Media reports, highlighting coping mechanisms & strategies in adverse circumstances, will have immense protective effect in preventing suicides. The media can also be a source of information about where & how to seek help and advice in case of crisis.

The role of advocacy and legislature cannot be over-emphasized. Laws restricting availability of lethal agents such as firearms, poisons and drugs without prescription have been advocated.

Suicide

Mode of suicide: Most commonly used modes are consumption of a poison, hanging, self-immolation, drowning and jumping from roof.

Prevention: The prevention appears to be more complex than the problem of suicide itself and needs to be taken up at different levels:

Universal initiatives address an entire general public by enhancing knowledge through public education campaigns, school-based awareness programs, and increasing access to help, and strengthening protective processes like social support and coping skills.

Selective initiatives focus on at-risk groups that have a greater probability of committing suicide and aim to prevent the onset of suicidal behaviors among specific sub-populations. This also includes screening programs in schools, developing caregivers and peer helpers support and skill building groups for at-risk groups in the population.

Indicated initiatives address those evidencing early signs of suicide potential. Programs are designed and delivered in groups or individually to reduce risk factors and increase protective factors. Developing support groups in schools and colleges, like parent training programs, crisis intervention and treatment are useful.

Various useful interventions are as follows:

Treatment of a primary psychiatric disorder: Early detection and adequate treatment of a primary psychiatric disorder is of paramount importance and have been shown to have anti suicidal effects. This will require adequate training of general practitioners in detection and referral of patients with common mental disorders.

Learning from previous suicide attempt: Since the greatest predictor of completed suicide is the presence of a previous suicide attempts, interventions therefore, aimed at suicide attempters, may be most effective in reducing suicide rates. Psychiatric or psychological treatment of the suicide victim is essential in addition to the management of the somatic injuries.



The early identification of vulnerable populations with risk factors: The identification of such individuals requires a multidisciplinary approach with active participation from family members, teachers & school authorities, health professionals; and the legal system. Further, identified person from schools and community like police, merchants & shopkeepers; and recreation staff, clinical health-care providers like physicians and nurses, can also be used for identification of at risk youth. A questionnaire or other screening instrument can be used to identify high-risk adolescents in schools. Repeated assessment can be used to measure changes in attitudes or behaviour over time.

Primary prevention strategies include promoting positive health and instilling adaptive coping strategies among children. Simultaneously, improving awareness among parents, teachers and healthcare professionals regarding child-rearing practices and early intervention for maladaptive coping styles is also essential. At the community level, the establishment of social programs such as child and family support programs and programs aimed at achieving gender and socio-economic equality may be useful.

The need for a strategy which will raise awareness and help make suicide prevention a national priority has long been recognized. Such a national strategy will need a comprehensive approach that encompasses the promotion, coordination, and support of activities to be implemented across the country at national, regional, and local levels.

Prevention programs aimed at children and young adults would have to address issues related to gender inequality, physical & sexual abuse, violence and mental illness.

The government has announced to decriminalize suicide. After all, those who attempt suicide do so for lack of social, economic and emotional resources. The desire to commit suicide should be seen as a condition needing treatment, not punishment. The grim epithet to their tormented lives is the suicide note wherein, an inability to cope with pressure is often expressed.

Most young people don't really want to die but they just want their pain to end. Most of the time, people who kill themselves have given definite signals or talked about suicide in the past. It is important to watch for signs which may indicate that someone is thinking about committing suicide.

Look for Warning signs: Current talk of suicide or making a plan, strong wish to die or a preoccupation with death, giving away prized possessions, signs of depression, irritable mood, ill-tempered, feelings of worthlessness, sadness, self-hatred; inappropriate guilt, increased alcohol and other drug use, talking

about not being around in the future or saying good-bye, persistent difficulty falling or staying asleep, excessive daytime sleepiness, excessive fatigue, lack of concentration and preoccupation with self.

These warning signs are especially noteworthy in presence of failure in academics, a recent loss of a friend or family member, a recent break-up with a boyfriend or girlfriend, or conflict with parents; and readily accessible arms, firearms and poisons.

In case, warning signs are seen then do not leave him or her alone and get help immediately.

Show you are concerned and will take care. Talk about your feelings and ask about his or hers. Listen carefully to what they have to say.

Ask the Question & don't hesitate to raise the subject in a caring, non-confrontational way. "Do you really want to die?"; "Do you want your problems to go away".

Get Help from school counsellor, teacher or coach, Private therapist, or counsellor, Mental health agency, Hospital emergency room and other social organizations.

SOLUTIONS

1. First of all you should never think about death.
2. Think about how you can fix the problem that you are struggling with.
3. Talk to an adult and explain to them what is going on.
4. Try to stay next to a friend that you can trust.
5. NEVER EVER give up on yourself.

Menopause



Anita was working in the office for more than eight years but for last two months feeling quite uncomfortable, experiencing hot flashes and irritable mood swings. At home also she had difficulty in sleep and lack of interest in sex for quite some times, often causing problems in marital life. Moreover, she was upset about her irregular menstrual period.

Not able to understand herself and finding it difficult to share with friends, she was in a sort of disequilibrium in her life. She had no clue as to what is happening to her and whom to contact for help. Two more months passed when one day,

while coming from the office, she came across a promotional advertisement of a clinic claiming to look after the women's health especially after 45 years of age. Instantly, she booked an appointment and visited the clinic and she came to know that she was experiencing 'Menopause' which is a normal phase in graceful aging of a women.

Menopause is defined as the absence of menstrual periods for at least 12 months. It is the time in a woman's life when the function of the ovaries ceases and she is no longer able to become pregnant. There is no way to predict when an individual woman will have menopause or begin having symptoms suggestive of menopause. The age at

which a woman starts having menstrual periods is also not related to the age of menopause.

Menopause is a normal condition that all women experience with age. It is a clinical diagnosis in healthy women over 45 years who have not had a period for at least twelve months. It is not an overnight phenomenon, but it is a gradual process.

The average age for menopause in women worldwide is 51 years but it may occur as early as 30 years or as late as 60 years. Some women can experience it sooner and others later; some women may have their last period in their late 30s while others might have to wait till they are in their 60s. Typically in Indian women, menopause takes place a little earlier, the average age ranging from 40 to 49 years.

Stages of Menopause: Menopause is the normal, natural transition in life that begins between the ages of 35-55. During this time, ovaries get smaller and stop producing the hormones oestrogen and progesterone that control the menstrual cycle. Ultimately the eggs are depleted and fertility declines, eventually resulting in incapability to become pregnant. The transition from perimenopause through menopause to postmenopause can take 1-3 years.

Perimenopause: The 3-5 years period before menopause when the hormone levels begin to drop is called perimenopause. Typically it starts around 40's and is associated with irregular menstrual cycles and symptoms such as hot flashes, sleep disturbances-insomnia, night sweats, elevated heart rate, mood changes, irritability, depression, anxiety and Vaginal dryness or discomfort during sexual intercourse. At this stage, there exists a chance of becoming pregnant.

Menopause: Most women are about 40 to 49 when they enter menopause. Technically, menopause starts after missing twelve straight months without menstruation. It's important to remember every woman is unique and will experience menopause differently. Some women experience no symptoms and those who have symptoms the symptoms can vary widely.



Postmenopause starts after one year since your last menstrual cycle. Other symptoms that might have started in perimenopause can continue through menopause and postmenopause. Additionally, due to the decrease in hormone, there's an increased risk of heart disease, osteopenia and osteoporosis.

It is worth mentioning that certain events other than natural aging like surgical removal of uterus, ovaries or ovarian failure can result in menopause at earlier age.

Causes of Menopause: The internal reproductive organs in the female include ovaries, uterus (womb), fallopian tubes and vagina. In conception, the fertilization of an egg by a sperm normally occurs in the fallopian tubes. The fertilized egg then moves to the uterus, where it implants into the lining of the uterine wall.

Females of reproductive age experience cycles of hormonal activity that repeat at about one-month intervals. With every cycle, a woman's body prepares for a potential pregnancy, whether or not that is the woman's intention. The average menstrual cycle takes about 28 days. The term menstruation refers to the periodic shedding of the uterine lining.

There are four major hormones (chemicals that stimulate or regulate the activity of cells or organs) which control for menstrual cycle: follicle-stimulating hormone, luteinizing hormone, oestrogen, and progesterone. These hormones

Menopause

are responsible for bringing about the changes required in female reproductive organs from time to time as per the need during the life of cycle.

Ovaries are the source of oestrogen and progesterone, the two key hormones that control the reproductive system, including the menstrual cycle and fertility in women. Woman is born with total quantum of eggs that will be released during the life time. The eggs are in the follicles, which are found in the ovaries.

During menopause, the number of ovarian follicles declines and the ovaries become less responsive to the Luteinizing Hormone (LH) and Follicle-Stimulating Hormone (FSH). With growing age, ovaries release lesser amount of oestrogen and progesterone hormones. These inevitable changes in hormones and natural decline of oestrogen levels during menopause significantly affect health for years to come



Symptoms include irregular periods with scanty or excessive bleeding, hot flushes, night sweats, vaginal dryness & itching, mood swings, joint pain, oedema, sleeplessness, lack of energy, excessive hair fall, anaemia, weakness, stress incontinence (involuntary emission of urine when pressure within the abdomen increases suddenly, as in coughing or jumping), loss of sexual desire & wrinkling of skin etc. If left untreated, all of the symptoms mentioned will usually taper off gradually over a period of 2-5 years. However, symptoms can persist for much longer. In some cases, vaginal dryness, itching, and discomfort can become chronic, and eventually get worse if left untreated.

Diagnosis: Menopause is a clinical diagnosis and does not require any investigations. Apart from a blood test, which can measure levels of FSH (follicle-stimulating hormone), there is no definitive test to diagnose menopause

Treatment: Most women do not seek medical advice during menopause, and many women require no treatment. However, if symptoms are significantly affecting the woman's daily life, she should see a doctor. Available treatments include:

Hormone Therapy (HRT) is the most effective treatment to relieve the menopausal symptoms. It is replacement of various hormones. It effectively treats many troublesome menopausal symptoms, helps prevent osteoporosis, and lowers risk of developing colorectal cancer later in life. It raises the risk of developing breast cancer, ovarian cancer; and uterine cancer besides increasing the risk of coronary heart disease, stroke.

Other Drugs: Low-dose antidepressants, vaginal oestrogen and other analgesics are often used to relieve symptoms.

Healthy lifestyle: in order to live longer and live stronger, one has to take care of physical health, mental health and sexual health for which healthy lifestyle is essential.

Nutrition: Good, balanced diet with adequate proteins, vitamins and mineral is very important.



Exercise: It's important for both physical health and mental wellbeing to stay as active as possible and do some exercise. New fun ways to exercise like tai chi, interval training, pilates, zumba, ballroom dancing, yoga, water aerobics, spin classes and a half-hour walk to keep moving could be explored.



Changes and Challenges: In addition to the physical changes of menopause, it is also a time in life that can bring many emotional challenges. Lack of interest in sex and incapacity to perform, become a cause of mental worry. Children may be grown up and parents might become ill giving extra stress. This is a time in life that can open up new horizons and poses number of challenges and the need of the hour is to bring about changes that are important in life.

Medical Problems associated with Menopause: some of the medical problems seen associated with menopause are cardiovascular disease, osteoporosis, urinary incontinence, loss of libido, overweight & obesity, and Breast cancer.

The warning sign to contact doctor are menstrual periods unusually heavy, irregular, or prolonged, bleeding between menstrual periods, renewed bleeding after having no periods for some time, unexplained bleeding while taking hormones, persistence of symptoms such as insomnia, hot flashes or mood swings, vaginal pain or dryness; or signs of urinary tract infection (UTI) such as pain or burning during urination or cloudy urine.

Women of this age are advised periodically to undergo haemogram, lipid profile, blood sugar, pap smear, ultrasound abdomen, bone mineral densitometry & mammogram to detect any disease associated with menopause.

This is the time to think about starting a different career path like returning to hobbies which were given up, taking lessons in a sport or enjoying the thrill of being a new grandmother. Now is the time to start dating again and enjoy the sexual freedom that menopause brings. Fifty is no longer the "end" of anything, but the beginning of a new chapter in life filled with optimism and hope.



Visual Impairment



Aging is a process of deterioration of physiological function, resulting in progressive functional decline, loss of viability and increased vulnerability. Human aging is associated with a wide range of physiological changes that limit normal functions and render more susceptible to a number of diseases & death. Aging is characterized by changes in appearance, gradual reduction in body mass, lower metabolic rate, longer reaction times, functional declines in memory, sexual & reproductive activity, audition, olfaction & vision and overall declines in function of almost all organs & systems.

Visual impairment is a major health problem affecting a sizable proportion of the elderly population. With advancing age, the normal function of eye tissues diminishes and there is an increased possibility of eye disease. Every third person has some form of vision-reducing eye disease by the age of 65 years. Untreated visual impairment leads to physical handicap, increased incidence of fall, depression, social isolation and dependency. The resultant activity limitations and reduced perceived social support & self-efficacy associated with decline in socioeconomic

resources profoundly influence quality of life in visually impaired & blind person.

As the eye ages, most of the anatomical and physiological processes gradually decline. The eyelids experience a loss of elasticity and tone creating several eyelid disorders. Tear production by the lacrimal gland may decrease with aging causing dry eyes. The lens of the eye is also affected by advancing age and become denser, less elastic, larger, and more opaque leading to the development of cataracts. Further age-related changes in eye muscles cause problem in focusing on object. Finally, the vitreous gel tends to liquefy and retinal blood vessels age affecting vision.

The common causes of visual impairment in elderly are uncorrected refractive errors (myopia, hyperopia or astigmatism), un-operated cataract, and glaucoma, retinopathy, macular Degeneration and Dry Eye Syndrome.

Refractory error is a common eye disorder due to altered shape of the eye that prevents light rays from object focusing directly on the retina. The length of the eyeball (longer or shorter), changes in the shape of the cornea, or aging of the lens can cause refractive errors.

Symptoms: Blurred vision while reading or looking at distant objects is the most common symptom of refractive errors. Other symptoms may include Double vision, Hazy vision, Glare or halos around bright lights, Squinting, Headaches, and Eye strain. Contact your doctor immediately in case of any of above symptoms.

Correction of Refractory error:

Eyeglasses are the simplest and safest way to correct refractive errors. An eye care professional can prescribe appropriate lenses to correct refractive error and restore optimal vision.



Contact Lenses work by becoming the first refractive surface for light rays entering the eye, causing a more precise refraction or focus. In many cases, contact lenses provide clearer vision, a wider field of vision, and greater comfort. They are a safe and effective option if fitted and used properly. It is very important to wash your hands and clean your lenses as instructed in order to reduce the risk of infection.

Refractive Surgery aims to change the shape of the cornea permanently. This change in eye shape restores the focusing power of the eye by allowing the light rays to focus precisely on the retina for improved vision. There are many types of refractive surgeries. Your eye care professional can help you decide if surgery is an option for you.

Cataract is a clouding of the lens in the eye that affects vision. The lens lies behind the iris and the pupil. It focuses light onto the retina at the back of

the eye, where an image is recorded. The lens also adjusts the eye's focus, letting us see things clearly both up close and far away.

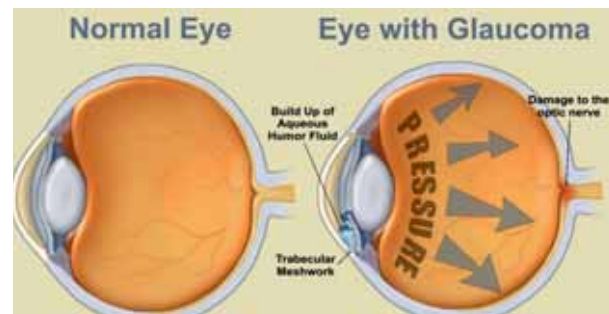
The lens is made up of mostly water and protein. The protein is arranged in a precise way that allows light pass through it. With aging some of the protein may clump together and start to cloud a small area of the lens and forms cataract.

Over time, the cataract may grow larger and cloud more of the lens, making it harder to see. It happens as people age and is also more common in Diabetics, people with eye injury, people on long term medicines for chronic illnesses.

Symptoms are blurred vision & frequent change in the number for spectacles, the black center of the eye may start appearing as white, Colors seem faded, double or multiple vision, lamps or sunlight may appear too bright, a halo may appear around lights & Poor night vision.

Treatment: Cataract removal and replacement with artificial lens are the most common operations performed. It is the safest and most effective types of surgery.

Glaucoma is the name given to a group of eye diseases in which the optic nerve at the back of the eye is slowly destroyed. In most people, this damage is due to an increased pressure inside the eye as a result of blockage of the circulation of aqueous fluid, or its drainage. In other patients the damage may be caused by poor blood supply to the vital optic nerve causing, a weakness in the nerve or a problem in the health of the nerve fibres.



Risk factors: Although anyone can get glaucoma but persons with family history of glaucoma,

Visual Impairment

diabetes, migraine, short-sightedness (myopia), long-sightedness (hypermetropia), eye injuries, blood pressure and past or present use of cortisone drugs (steroids) are more susceptible.

Types of Glaucoma: the two most common forms of Glaucoma are

Primary open-angle glaucoma: Most people with open-angle glaucoma feel fine and they initially do not notice a change in their vision because the initial loss is of peripheral vision and the sharpness of vision is maintained until late in the disease. The disease has few warning signs or symptoms before damage has occurred, it is, therefore, important to see a doctor for regular eye examinations.

Angle-closure glaucoma: the eye pressure is raised because of obstruction of outflow of aqueous eye fluid which leads to increase in eye pressure causing optic nerve damage, and possible vision loss. This rise in eye pressure may occur suddenly or gradually.

Congenital glaucoma is rare form of glaucoma caused by an abnormal drainage system. It can exist at birth or develop later. Parents may note that the child is sensitive to light, has enlarged and cloudy eyes with excessive watering. Surgery is usually needed.

Secondary glaucoma can develop as a result of other disorders of the eye such as injuries, cataracts, eye inflammation. The use of steroids (cortisone) has a tendency to raise eye pressure and therefore pressures should be checked frequently when steroids are used.

Symptoms: Early stages of open-angle glaucoma have no obvious symptoms. As the disease progresses more blind spots develop in the peripheral view. These points can go undetected until the optic nerve has had serious damage, or until it is detected by an ophthalmologist through a complete eye exam.

Early symptoms of Angle-closure glaucoma may include blurred vision, halos, mild headaches or eye pain. An acute attack of angle-closure glaucoma includes severe pain in the eye or forehead;

redness of the eye; decreased vision or blurred vision; vision rainbows or halos; headache; nausea and vomiting

Consult the eye doctor if any of the above-mentioned symptoms are present.

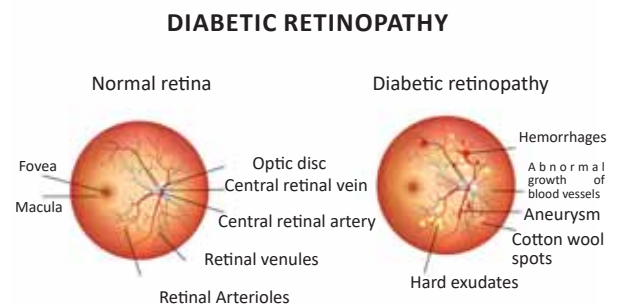
Treatment: Regular check-up and medication as advised by the Eye-Doctor is a must for lifetime. In certain cases, Eye-Doctor may advice surgery also. But even after surgery, medication as advised by the doctor from time to time must be strictly followed to avoid blindness.

Prevention: Glaucoma cannot be prevented but blindness due to Glaucoma can be prevented if it is detected early and treated properly.

All glaucoma patients should inform their close relatives that they have increased risk, up to 10 times higher than the general population, to develop glaucoma. The best protection is to have regular and comprehensive eye check-ups that include a review of their optic nerves. This is more than just an eye pressure test. Early detection and regular treatment can beat glaucoma

Retinopathy: uncontrolled diabetes and hypertension cause damage to blood vessels in the retina, causing severe damage to vision even vision loss.

In Diabetes, when left untreated, the glucose levels in the blood go abnormally high and persistent exposure causes damage to retinal blood vessels. Similarly uncontrolled hypertension for prolonged duration damages retinal vessels.



The retina is the internal covering of eyeball. The blood vessels supplying blood to retina begin to

break down when exposed to high blood sugar or high blood pressure. This may eventually cause haemorrhage, leaking blood onto the retina, which permanently destroys the tissue. Retinopathy usually affects both eyes.

Symptoms: An early stage of retinopathy is usually free of symptoms. As the condition progresses, symptoms like spots or dark strings floating in the vision (floaters); blurred or fluctuating vision; impaired colour vision; dark or empty areas in the vision; and ultimately vision loss develop.

Diagnosis is done by Fluorescein Angiography in which a dye is injected into the arm vein and photograph is taken with a special camera.

Treatment: All the Retinopathy patients should remain careful with regard to their blood pressure and Blood sugar. Treatment involves laser therapy to cauterize any bleeding blood vessels. As a precautionary measure Hypertensive and diabetic patients must visit the eye doctor every year even if vision seems to be fine. They should visit for an eye check up right away if their vision suddenly becomes blurry, spotty or hazy

Age-Related Macular Degeneration (ARMD): The macula is the part of the retina that allows seeing fine details. It is densely packed with cones, the retinal cells that facilitate to see colours. As a person gets older, the immune system by mistake begins to identify healthy retinal cells for cellular garbage and attacks these cells causing breakdown or “degeneration” of these important cells that make up the macula. This results in devastation of central vision.

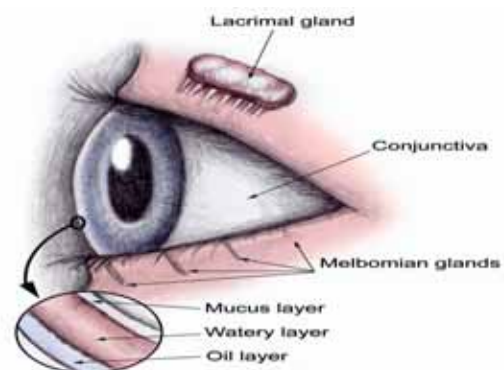
Patients who suffer from ARMD slowly lose the ability to drive, read, write and watch TV. The peripheral vision is unaffected, so the patient never goes completely blind. There are two types of macular degeneration. The dry form is the initial stage of the disease. As the disease progresses, new blood vessels begin to grow in the retina which bleeds into the retinal tissue and it is called wet ARMD.

Diagnosis: ARMD diagnosed through Optical Coherence Tomography (OCT) which is a special

photograph that shows a magnified 3D image of the retina. This method helps eye doctor to find out whether retinal layers are distorted. The eye doctor can also see if swelling is getting better or worse after having taken treatment with injections or laser. In addition, Fluorescein Angiography as mentioned above for retinopathy is also utilised for ARMD.

Treatment: There is no treatment for the dry form of the disease, although vitamins have been proven to slow the progression of the disease. The wet form of ARMD can be treated with medications that prevent further vascularisation and in some cases can reverse the process to some degree.

Dry Eye Syndrome: Dry eye syndrome is caused by a chronic lack of sufficient lubrication and moisture on the surface of the eye, thereby, affecting the tear system. In women, this happens very quickly during and after menopause because of the drop in oestrogens levels, a female hormone. The lack of sufficient lubrication and moisture causes the cornea to dry out, resulting in a sensation of sand in the eye, excessive tearing, light sensitivity and cloudy vision. This situation can also be caused by the production of a small quantity of tears or long-term use of contact lens.



Symptoms: The most common symptoms of “Dry Eye Syndrome” are - burning, pain and redness in the eyes; watery tearing or stringy mucus in the eyes; eyes getting tired faster; difficulty in reading or sitting at the computer for long periods.

Diagnosis: A comprehensive eye examination is required along with measurement of tears volume.

Visual Impairment

In addition, to determine the surface condition of the eyes, special dyes are used in eye drops.

Treatment: Treatment involves alleviating the symptoms. Artificial tears are the most common and effective treatment. However, for more severe cases, prescription of eye drops may be necessary.

Corneal blindness: Infections, mal-nutrition, inflammations, and degenerative conditions can damage the structure and shape of the cornea leading to visual impairment and blindness. Corneal blindness can be corrected with corneal grafting collected from eye donations. In our country only about 35,000 corneas are collected in a year whereas 150,000 are needed to combat corneal blindness.

Care of vision:

Healthy lifestyle: Eat green leafy vegetables, eggs, beans, carrots right for a Good Sight Maintain physical activity and regularly do exercise.

Tobacco: People who smoke are up to three times more likely to develop cataracts than non-smokers

Alcohol: Restrict the use of alcohol

Protect your eyes from the sun. Ultra violet (UV) rays

Protective glasses: Wearing UV protected Sunglasses, safety glasses & anti-glare eye wear

Blink more Take frequent breaks and blink more often to reduce eye dryness while on computers

Family History: Find out whether there is family

history of glaucoma or eye disease as eye problems are more common in closed relatives.

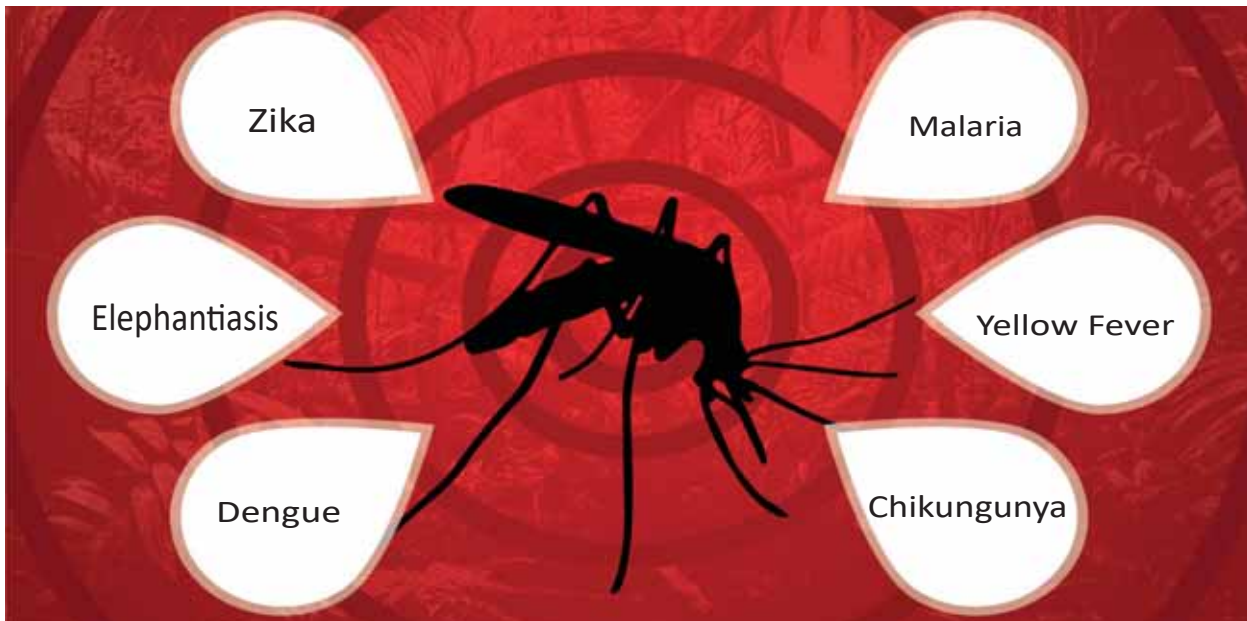


Regular eye examinations: It is very important to have regular eye examinations to detect eyes problems and take appropriate treatment at the earliest. In the absence of problem, eye check-up be done at least once every two years, but in case of health problem, like diabetes, glaucoma or high blood pressure (hypertension), eye examination be done more frequently and regularly. See a doctor or optometrist as soon as possible in case of any changes in vision or pain in or around eyes.

Free check-up & treatment are available in all designated health facilities like Primary Health Centre, Community Health Centre, District Hospital, Medical College, Regional Institute of Ophthalmology and selected NGO hospitals under National Programme for Control of Blindness.



Vector-Borne Diseases



Vector is an organism that does not cause disease itself but it spreads infection from one host to another by conveying pathogens through bites or mechanically. These vectors are blood-sucking insects, which ingest disease-producing microorganisms during a blood meal from an infected host (human or animal) and later inject it into a new host during their subsequent blood meal causing disease.

Vector-borne diseases are infectious diseases transmitted through insects such as mosquitoes, sandflies, ticks, fleas, lice, bugs and flies. The major vector-borne diseases in India are malaria, filariasis, dengue, chikungunya and Japanese encephalitis transmitted by mosquitoes and kala azar (leishmaniasis) transmitted by sand flies. These diseases have emerged as serious public health problem in many parts of the country. They all present as acute febrile illness characterized by a sudden increase in internal body temperature to levels above normal resulting in fever and is often associated with symptoms such as headache, chills or muscle and joint pains, nausea, vomiting.

The burden of vector-borne diseases varies considerably with socio-cultural behavioural and environmental conditions. Generally, it affects rural,

tribal areas and urban slums inhabited by the poor, marginalized and vulnerable group of population with limited access to quality health care, communication and other basic amenities in those focal areas. The problem is further aggravated by development of drug resistance of disease causing organisms to drugs used for their treatment and resistance of vector to insecticides. In the absence of vaccine, early detection & treatment with proper vector control remains important to break the chain of transmission.

Mosquito borne diseases are prevalent across the world, infecting 300-500 million people and causing about 1 million deaths every year. In India, more than 40 million people suffer from mosquito diseases annually with a large number of deaths resulting in great economic burden.

To a great extent, these mosquito-borne diseases can be prevented. Government agencies alone cannot do this and in fact, every citizen, household, village, district and township must participate in this process with all its capabilities & available resources.

Source reduction of breeding places: At household & community level water shouldn't be allowed to stagnate and whenever feasible, water should be

Vector-Borne Diseases

drained off. Some mosquitoes breed in water collected in uncovered tanks, barrels, drums, buckets, jars, pots, flower vases, plant-pots, discarded bottles, tins, tyres, water coolers and a lot more places. At home, water in flower pots, buckets, coolers etc. should, at least be changed twice a week. If needed kerosene oil or other larvae killing drugs could be added to stagnant water. Water for cooking and drinking purpose or for other use should be stored in covered containers. For efficient control, allow spraying of pesticides in & around houses.



Personnel protection measures for prevention of mosquito bite: Use light colour, full clothing to cover arms and legs. Windows & ventilation should be properly covered with nets. Use air conditioners or mosquito bed nets if sleeping in unscreened open space. Use Mosquito repellents like vaporizing mats, coils, electronic repellents, and creams. The most effective repellents contain 20% to 35% DEET (N, N-diethylmethyltoluamide). Follow application instructions carefully when using these products.



Malaria: Two types of malarial parasites are common in our country. These are Plasmodium vivax and Plasmodium falciparum and the latter is considered the most deadly form of malaria parasite. Malaria is a parasitic disease transmitted by the bite of female anopheles mosquitoes. Malaria can also be transmitted through blood transfusion, organ transplant or the

shared use of needles or syringes contaminated with blood; and mother to her unborn infant before or during delivery.

Once the parasite enters the human body through bite of infected female Anopheles mosquitoes, it rests & multiplies in liver before entering the blood stream infecting red blood cells. Malaria occurs throughout the year across the country, but more cases are reported during and after the rainy season due to mosquito breeding.

Symptoms High grade, intermittent fever with chills & rigors on alternate day is typical of malaria. However, many cases may have continuous fever accompanied with headache, nausea & vomiting, body ache, and other flu-like symptoms. Parasite may pass to brain causing cerebral malaria resulting in coma, life-long disabilities and even death. Sometimes, Malaria cases develop complication causing encephalopathy, seizures, coma, kidney failure.

Diagnosis: Early diagnosis and complete treatment are essential to contain the disease. The diagnosis is made by detecting the presence of parasites in blood by microscopy examination of stained thick and thin blood smears. Rapid Diagnostic Test (RDT), based on Polymerase Chain Reaction (PCR), to detect the parasite, is also available. All fever cases should undergo peripheral smear for malaria at the earliest.

Treatment: Antimalarial drugs in optimum doses are used for treatment of the malaria. The choice of drug and dose depends on the species of malaria parasite and patient's age. For treatment of malaria during pregnancy, chloroquine or hydroxyl-chloroquine are considered safe but oral artesunate should not be used during the first trimester of pregnancy.

Prevention: Early diagnosis and quick cure remains the key to prevention of malaria. Source reduction of mosquito breeding places by avoiding stagnation and collection of water in and around house, spraying insecticides to kill premature stages in collected water and sprays to kill adult mosquitoes are useful in controlling the vector. Further, personal protection from mosquito bites by using long-sleeved & legged clothing, insect repellent creams, electronic mosquito repellents & fumes or using insecticides treated

mosquito net will help preventing transmission of the parasite.

Dengue: Dengue virus is transmitted by female mosquitoes mainly of the species *Aedes aegypti* as well as to a lesser extent, *Aedes albopictus*. This mosquito also transmits chikungunya, yellow fever and Zika virus infection. There are 4 distinct, but closely related types of the virus that causes dengue. Recovery from infection provides lifelong immunity against that particular variety.

Dengue fever is a severe acute febrile illness that affects infants, young children and adults. Recovery generally takes two to seven days. Sometimes, the disease develops into the life-threatening dengue haemorrhagic fever causing bleeding, low levels of blood platelets and dengue shock syndrome, due to plasma leakage.

Transmission: Dengue virus disease spreads by the mosquitoes. Whenever an *Aedes mosquito* bites a patient of dengue fever, it sucks blood along with the dengue viruses which undergoes further development in the body of the mosquito and in subsequent bite these viruses are injected into another host causing infection. Symptoms appear 3-10 days after bite. The mosquito flourishes during rainy seasons but can breed in clean water-filled flower pots, plastic bags, unused tyres, open water tank.

Symptoms of dengue include sudden high fever, severe frontal headache, pain behind the eyes, severe joint and muscle pain, fatigue, nausea, vomiting; and skin rash, which appears two to five days after the onset of fever. The disease starts with flu like symptoms and symptoms are mild. Some cases turn into dengue haemorrhagic fever with more severe symptoms like headache, fever, rash, and evidence of bleeding (haemorrhage) in the body, small red spots or blisters under the skin, bleeding in the nose or gums, black stools. This form of dengue fever can be life-threatening.

Diagnosis: Dengue is diagnosed when the patient exhibits the typical clinical symptoms of headache, high fever, eye pain, severe muscle aches, and skin petechiae. Symptoms usually overlap with those of many other acute febrile illnesses, such

as chikungunya. The doctor should record the temperature and perform a tourniquet test and look for the petechiae i.e. skin rash. All suspected cases of fever with bleeding should be investigated thoroughly for low platelet count. Further IgM MAC ELISA test kits are available free of cost for diagnosis.

Treatment is purely supportive and symptomatic. Keep the temperature low by giving Paracetamol tablet or syrup. Do not give aspirin, disprin or brufen tablets to the patient. Hydrotherapy by applying wet towels can be used to bring down the temperature in case of high fever. Some cases require platelet transfusion. Even severe cases of dengue can be managed successfully if a correct diagnosis is made and the treatment is started early. Early detection and proper case management can reduce deaths substantially. Dengue fever can be managed at home as it is a self-limiting disease but in dengue shock syndrome, it is desirable that the patient be hospitalised and treated with replacement of plasma, correction of electrolyte and metabolic disturbances and blood transfusion.

Prevention: Prevention is better than cure. Besides early detection it is important to stop breeding of mosquito in and around the house by covering the water tank & other storage items and removing water from coolers, flower pots, and other small containers. Further all efforts are made for protection from mosquito bite using repellent creams, full body clothing and mosquito nets.

Chikungunya spreads by the bite of infected *Aedes aegypti* mosquitoes, the same mosquito that transmits dengue virus as well. It resembles dengue fever and full recovery may take months. Usually, the patients get lifelong immunity against the Chikungunya and re-infection is rare.



Vector-Borne Diseases

Symptoms of Chikungunya are similar to dengue fever, which usually starts suddenly with fever, chills, headache, nausea, vomiting, severe joint pain, and rash. Recovery can be prolonged and persistent joint pain may require analgesic and long-term anti-inflammatory therapy. It is a disease with mild symptoms but disabling joint pain and is rarely fatal.

Diagnosis: Clinical picture is quite suggestive of the diagnosis because of presence of joint pain but final diagnosis may be made by blood tests (ELISA)

Treatment: There is no specific treatment for chikungunya. Supportive therapy such as administration of non-steroidal anti-inflammatory drugs, plenty of rest and plenty of oral fluids is useful. Infected persons should rest in mosquitoes net to the extent possible, in order to avoid transmission of infection to other people in the family or the neighbouring areas.

Prevention: There is neither Chikungunya virus vaccine to prevent nor drugs are available to cure the infection. Prevention, therefore, focuses on avoiding mosquito bites and eliminating mosquito breeding sites.

Kala Azar is a chronic and potentially fatal parasitic disease of internal organs like liver, spleen, bone marrow and lymph nodes) due to infection by the parasite called *Leishmania donovani*. It is also known as leishmaniasis, black fever; and the second largest parasitic killer in the world after Malaria. It spread by the bite of infected sand flies, the insect, which are most active in humid environments during the warmer months and at night. It attacks the immune system and is almost fatal if not treated.

Transmission: Healthy human hosts get infection through bite of infective sand-fly. The disease can also be transmitted through blood transfusion or shared needles.



Symptoms of Kala Azar include recurrent fever which is intermittent or remittent, loss of appetite, pallor and weight loss with progressive emaciation & weakness; enlargement of spleen, Liver, dry, thin and scaly Skin, hair loss; anaemia, greyish discolouration of the skin of hands, feet, abdomen and face.

Diagnosis: A case of fever of more than 2 weeks duration not responding to anti-malarial and antibiotics. Clinical laboratory findings may include decreased red cell, white cell and platelets.

Serology tests: The most commonly used tests detect IgG antibodies in blood. Aldehyde Test is commonly used but it is a non-specific test. Parasite demonstration in bone marrow/ spleen/ lymphnode aspiration or in culture medium is the confirmatory diagnosis

Treatment may reduce the severity of the disease and can cure the disease. Liposomal Amphotericin B (LAMB) in a single dose of 10 mg/kg as the first choice treatment regimen. Paromomycin-Miltefosine for 10 days) is also recommended. Miltefosine 28 day's regime and Amphotericin B as multiple doses are also used. It is to be noted that Miltefosine cannot be given to pregnant and lactating women, nor in young children.

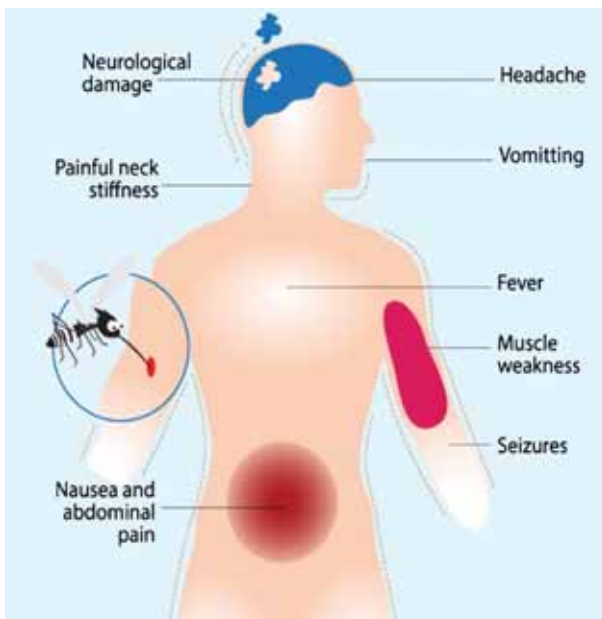
Post Kala-azar Dermal Leishmaniasis is a condition in which *Leishmania donovani* parasites are found in skin of patients usually 1-2 years or more after recovery from Kala-azar and is characterised by light colour macules, papules and nodules which usually occur on the face, especially the chin. Often, butterfly rash aggravated by exposure to Sunlight is an early sign of PKDL.

Post Kala-azar Dermal Leishmaniasis (PKDL) patients are to be treated with (i) Liposomal amphotericin B: 5mg/kg per day by infusion two times per week for 3 weeks for a total dose of 30mg/kg, or (ii) Miltefosine: 100mg orally per day for 12 weeks, or (iii) Amphotericin B deoxycholate: 1mg/kg over 4 months 60-80 doses.

Japanese Encephalitis: Japanese Encephalitis is mosquito-borne viral disease and one of the leading causes of death especially in children. Symptoms usually appear 5-15 days after the bite of an infected mosquito. JE virus primarily affects central nervous system. The disease is predominantly found in rural and peri-urban settings, where people live in closer proximity to these vertebrate hosts.

Transmission: Japanese encephalitis is a vector-borne disease transmitted through bites from infected mosquitoes of the *Culex* species (mainly *Culex tritaeniorhynchus*). It is normally a disease of water birds like pond herons and cattle egrets. Pigs play an important role as amplifier host in the natural cycle and allow manifold virus multiplication, for quite long duration, without suffering from disease. Man is a dead end accidental host in transmission cycle due to low and short-lived stay of viruses in human blood and cannot infect the mosquito. Transmission can occur year-round but often intensifies during the rainy season and pre-harvest period in rice-cultivating regions.

Symptoms of Japanese Encephalitis initially present like any other viral fever with chills, headache, nausea, vomiting & fatigue. Neurological manifestations like signs of meningeal irritation, convulsion, disorientation, altered sensorium, stupor, coma, tremors, paralysis and loss of coordination develop over period of time. Amongst patients who survive, some lead to full recovery through steady improvement and some suffer with stabilization of neurological deficit.



Japanese Encephalitis

Diagnosis: Several blood tests are available for JE virus detection and antigen antibody reaction like

Compliment Fixation Test (CF), ELISA for IgG (paired) and IgM (MAC) antibodies.

Treatment: No specific treatments have been found for Japanese Encephalitis and maintenance of vital function remains the prime objective. Hospitalization for supportive care and close monitoring is required. Treatment is rest, plenty of fluids and pain relievers.

Prevention is directed towards reducing the vector density and in taking personal protection against mosquito bites using insecticide treated mosquito nets. The reduction in mosquito breeding requires eco-management, as the role of insecticides is limited. Further Japanese Encephalitis Vaccine developed indigenously is now available.

Lymphatic Filariasis is a leading cause of permanent disability worldwide which is caused by microscopic, thread-like worm known as microfilariae. The adult worms only live in the human lymph system which maintains the body's fluid balance and fights infections. Communities frequently shun and reject women and men disfigured by the disease. Affected people frequently are unable to work because of their disability, and this harms their families and their communities.

Transmission: When the infective mosquito feeds on another human host, the infective larvae are deposited at the site of mosquito bite from where the infective larvae get into lymphatic system. In the human host, the infective larvae develop into adult male and female worms. The adult worms survive for about 5-8 years or sometimes as long as 15 years or more. They give birth to as many as 50,000 microfilariae per day, which find their way into blood circulation. The life span of microfilaria is up to a couple of months. Microfilariae are picked up by the vector mosquitoes during their feeding on the infected person.

Symptoms: It is a disfiguring & disabling disease and is commonly known as elephantiasis. Infection is usually acquired in childhood and there are either no symptoms or non-specific symptoms in early stages. Silently it damages the lymphatic system and alters the body's immune system. Due to damaged lymphatic system, these patients have frequent attacks of infection causing high fever and severe

Vector-Borne Diseases

pain. Patients may be bed-ridden for several days and normal routine activities become difficult.

Acute episodes of local inflammation involving skin, lymph nodes and lymphatic vessels often accompany chronic tissue swelling. The worst symptoms of chronic disease generally appear later in life more often in adult men than in women and include damage to the lymphatic system of arms, legs or genitals presenting as elephantiasis. This causes significant pain, loss of productivity and social exclusion.

Diagnosis: The standard method for diagnosing active infection is the identification of microfilariae in a blood smear by microscopic examination. The microfilariae that cause lymphatic filariasis circulate in the blood at night (called nocturnal periodicity). Blood collection should be done at night to coincide with the appearance of the microfilariae, and a thick smear should be examined.

Serologic techniques provide an alternative to microscopic detection of microfilariae for the diagnosis of lymphatic filariasis. Patients with active filarial infection typically have elevated levels of antifilarial IgG4 in the blood and these can be detected using

routine assays. Because lymphedema develops many years after infection, lab tests are most likely to be negative with these patients.

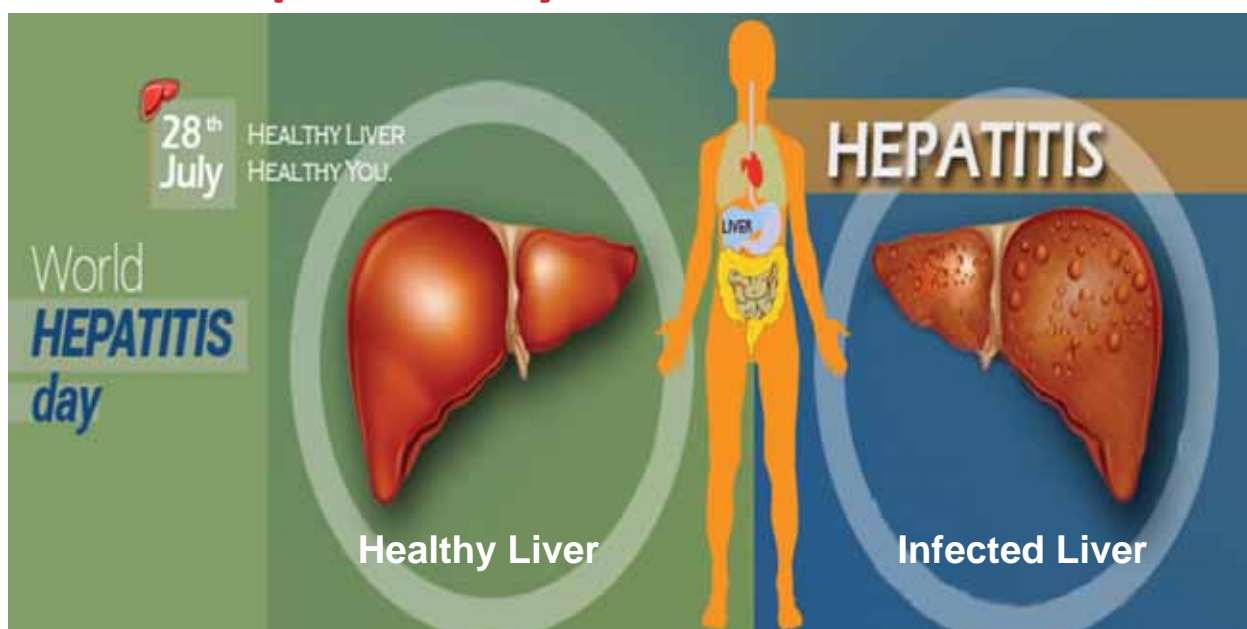
Treatment: Single dose of albendazole is given together with either diethylcarbamazine or ivermectin to clear the parasites from the bloodstream. Severe lymphoedema and acute inflammation can be improved with strict hygiene, skin care, exercise and elevation of affected limbs. Hydrocele can be treated surgically. During the acute attacks, the patient should drink plenty of water takes Paracetamol & Oral antibiotics which can shorten the attack.

Prevention: The main control measures were mass Drug (diethylcarbamazine) administration, anti-larval measures in urban areas and indoor residual spray in rural areas.

Vector-control plays a vital role and is often the only way to prevent disease outbreaks. Many existing interventions, such as insecticide treated bed nets and indoor spraying, are simple and proven. These vector-control tools can be particularly effective when used in combination with interventions such as mass drug administration involving large-scale treatment of affected communities.



World Hepatitis Day 2017



WORLD Hepatitis Day is observed throughout the world on 28th July annually to raise awareness amongst the general public as well as health care providers and policy makers at the highest level about diagnosis, treatment prevention and complications of hepatitis.

Variety of activities like free screenings, tests, diagnosis, poster campaigns, concerts, talk shows, demonstrations, competitive activities, essay writing, flash mobs, vaccination camps, increasing awareness through social media websites, newspapers, posters distribution, diet education, art exhibition, discussion on health care topics, speech, sports are undertaken by different stakeholders.

World Hepatitis Day presents an ideal opportunity to join hands together, all around the world, at many places including public places and clinical areas by organizing various activities and events involving professional and common people to disseminate information about the disease. Hepatitis virus causes injury to the liver and adversely affects liver function.

The liver is the largest gland in the human body.

The liver is made up of thousands of lobules, each lobule consists of many hepatic cells. The hepatic cell is the basic metabolic unit of the liver responsible for protein synthesis, glycogen storage, maintain glucose in the blood and filters harmful substances from the blood.

As a result of injury, bile and bile pigments get accumulated in body and cause yellowing of the skin and whites of the eyes. Five types of the hepatitis have been detected caused by different viruses and named as hepatitis A, B, C, D, and E. A and E type are short term infection and known as acute infection whereas B, C and D type are long-term infection and called as chronic hepatitis which may lead to some life-threatening complications including cirrhosis, cancer & liver failure.

Transmission of hepatitis A & E is due to faecal contamination of water and food whereas Hepatitis B, C & D is transmitted through blood contact with infected blood, semen or other body fluids by sharing needles and equipment.

Symptoms: Most of the persons suffering from the viral hepatitis do not develop any obvious symptoms in the starting period. Symptoms may include fever, malaise, loss of appetite, diarrhoea,

World Hepatitis Day 2017

nausea, abdominal discomfort, and yellowing of the skin and whites of the eyes. Light-colour stools, dark-colour urine and itching of the skin.

Diagnosis: Cases of hepatitis are not clinically distinguishable from other types of viral hepatitis. Specific diagnosis is made by blood test detecting antibodies. Liver function tests help to assess extent of damage to the liver cells.

Treatment: There is no specific treatment for hepatitis. Recovery from symptoms following infection may be slow and may take several weeks or months. Most important is high carbohydrate diet and avoidance of proteins, fats & unnecessary medications. Hospitalization is unnecessary in the absence of acute liver failure. Treatment for hepatitis is rest, adequate nutrition, fluids and regular medical monitoring. A variety of antiviral drugs are available that can slow down the effects on the liver, delaying the onset of cirrhosis, liver cancer or liver failure. It is advisable that the children born to mothers infected with hepatitis B should also be vaccinated within 12 hours of birth.

Prevention: The spread of hepatitis A can be reduced by adequate supplies of safe drinking water; proper disposal of sewage within communities; and improved personal hygiene practices such as regular hand-washing with safe water.

Vaccine: Several injectable inactivated hepatitis A vaccines are available with no serious adverse events. No vaccine is given to children younger than 1 year of age. Hepatitis B vaccination is given to children at birth and is available for all age groups. It is a very safe vaccine and three doses are recommended at 0, 1 and 6 months.

Blood safety regulations, including quality-assured screening of all donated blood and blood components used for transfusion, can help prevent transmission of hepatitis B and C. Safe injection practices, eliminating unnecessary and unsafe injections, can prevent transmission. Harm reduction services for people who inject drugs are critical to reduce hepatitis in this population. Safer sex practices, including minimizing the number of partners and using barrier protective measures (condoms), also protect against transmission.

KNOW HEPATITIS ACT NOW

ARE YOU AT RISK ?

Everyone could be at risk of hepatitis - risks include:

- Unsafe injections & medical procedures
- Unsafe sex
- Mother to child transmission
- Injecting drug use

KNOW HEPATITIS GET TESTED DEMAND TREATMENT

World Breastfeeding Week 1st to 7th August 2017



Breastmilk:

- Is the most appropriate and natural food for the baby.
- It adapts to the baby's needs. Even if baby is premature.

Protects the baby against infections : diarrhoea, bronchitis, pneumonia & immunological problems: allergies, diabetes..

World Breastfeeding week is observed from **1st to 7th August** globally as a combined initiative of public & private partners and other stakeholders to generate awareness amongst the general public for encouraging breastfeeding to improve the health of babies across the world. The theme for 2017 is '**Sustaining Breastfeeding Together**'. Breastfeeding is one of the most effective ways to ensure child health and survival

Mother's Milk, a precious gift to baby, provides perfect nutrients along with antibodies that enable baby to fight off viruses and bacteria infections. Exclusive breastfeeding is started within one hour of birth and continued till six months of age. Nutritious complementary foods are then added in between the breastfeeds up to two years or beyond. The breast stops producing milk or

produces inadequate amount in the absence of suckling. Suckling of breast increases production of breast milk.

Benefits of Breastfeeding for Baby: initial milk known as the Colostrum is rich in antibodies which protect baby from several infections. Breast milk contains adequate amount of proteins, fats, calories, lactose, vitamins, iron, minerals, water and enzymes necessary for the baby and is easy to digest. It plays a significant role in brain development of the baby. Besides, being economical and free from contamination, it enhances the emotional bond between the child and the mother.

Breastfed babies have lower risk of mortality, better immune system resulting in reduction of health budget therefore building healthy, happy Nation.

World Breastfeeding Week 1st to 7th August 2017

Benefits of Breastfeeding for mother: Immediate benefit is it reduces post-delivery bleeding and chances of anaemia. It helps mother to regain her normal figure after delivery. Long term benefit is it reduces the chances of developing breast cancer and ovarian cancer in later life.

Breastfeeding is right of every woman but only 38 per cent of infants around the world today are breastfed exclusively for even the recommended first six months of life and to achieve this, we need to tackle all the barriers to breastfeeding

Government is leading the change by making breastfeeding a policy priority in national development plans and increasing resource allocation for programs that support breastfeeding. Individuals, families, communities, societies & co-workers need to play their role and all stakeholder

need to work with communities and families to give full benefits of breastfeeding.

Millions of working women have to face obstacle that prevents breastfeeding at work and both mother and child remains devoid of its benefits. Breastfeeding-supportive workplace policies, facilities and environment need to be created to help working mothers and their children.

Breastfeeding improves the lives of millions of children and ultimately benefits families, communities, and societies. Our challenge now is to make breastfeeding work in the workplace, too. Together, we can help working women to breastfeed and reap the benefits for themselves, for their children, and for the health and well-being of future generations.



National Eye Donation Fortnight: 25th August – 8th September 2017



The National Eye Donation Fortnight is observed every year from 25th August to 8th September. The objective of the Eye Donation Fortnight is to promote the act of donating eyes after death. It is an act of charity, purely for the benefit of the society and is totally voluntary. It is considered as a great act of providing vision to those who are deprived of normal eye sight and have not seen the light of the day. From each pair of donated eyes, two blind people will get vision and light in their life, thus making it even more divine.

Wide spread social awareness programs and activities are undertaken by various public, private organisations, hospitals, medical colleges and other stakeholders at different level, across the country to emphasize the importance & significance of eye donation and its benefits to visually compromised segment of the society. The fortnight is observed to create awareness among the general public about the corneal blindness, eye donation, use of cornea from donated eye for corneal transplant and consequent restoration of vision of a corneal blind person.

National Eye Donation Fortnight: 25th August – 8th September 2017

Cornea is the glass like covering over the pupil of the eye. The cornea usually gets damaged because of infections or injuries of the eye or poor nutrition especially in childhood. Persons who have lost their sight because of damage to the cornea can hope to regain it with corneal grafting. So far no synthetic substitutes have been developed for the cornea.

The number of corneal blind person in India is high and significantly high numbers of cases are added every year, whereas eye donation is only about 59000 eyes per year which fail to fulfil the existing need of the corneal blind people. The fortnight generates mass public awareness about eye donation for bridging the gap between demand and supply of cornea by encouraging the public to pledge to donate eyes after death.

For eye donation call **1919** (MTNL/BSNL lines).

For more details, call helpline **1800-11-4770** or visit www.notto.gov.in. Alternatively contact nearest Eye Collection Centre/ Eye Bank located at a Medical College or Eye hospital on telephone or in person who will register pledge for eye donation and provide an Eye Donation Card.

Eye donation can be done only with the written consent of the person or next of the kin in the presence of two witnesses. Eyes can be removed from donor in the hospital or at the home of the donor within six to eight hours after death by a team from Eye Bank. Eyes are never bought or sold but are used for registered patients. The identity of donor and recipient is kept secret.

It is important to switch off the fan, raise the head by placing a pillow, close the eye lids and cover them with moist cotton while waiting for removal of eyes to prevent drying of cornea.



National Nutrition Week: 1st – 7th September



National Nutrition Week is observed annually throughout the country from 1st September to the 7th September to enhance the nutritional practice awareness amongst the public through the training, timely education, seminars, different competitions, road shows and many other campaigns to emphasise the importance of nutrition for the health and well-being, which has a direct impact on the development, productivity, economic growth and ultimately the National development.

Nutrition is the intake of a balanced diet, considered in relation to the body's needs. Well-balanced healthy diet, combined with regular physical activity is the cornerstone of good health. Nutritional deficiencies are the result of the body not getting enough of the nutrients it needs.

Children are more at risk for serious complications due to nutritional deficiencies than adults. Poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development and reduced productivity.

Thus, nutrition is a critical part of health and development. Better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases such as diabetes, cardiovascular diseases and longevity.

Objective of observing the national nutrition week is to identify various diet and nutrition problems in the communities and to find out appropriate techniques to prevent and control it. Further, the efforts are made to generate awareness amongst community through various campaigns & orientations, focused on the importance of making informed food choices and developing sound eating habits along with adequate physical activity.

Malnutrition refers to excesses, deficiencies or imbalances in intake of energy or nutrients in relation to the physical activity. The excess intake causes overweight, obesity and diet-related non-communicable diseases such as heart disease, stroke, diabetes and cancer.

'Undernutrition' includes stunting (low height for

National Nutrition Week: 1st – 7th September

age), wasting (low weight for height), underweight (low weight for age) and vitamins & minerals deficiencies or insufficiencies. Under nutrition puts children at greater risk of dying from common infections, increases the frequency and severity of such infections and contributes to delayed recovery. In addition, the interaction between under nutrition and infection creates a potentially lethal cycle of worsening illness and deteriorating nutritional status.

Exclusive breastfeeding is recommended for six months, introducing age appropriate safe supplementary foods at six months and continuing breastfeeding for up to two years or beyond.

Although great improvements have been made within the past few years, there still remains a great number of malnutrition related illnesses that are still present in the county and remains a major public health issue.

No single ministry or single intervention will be able to lead to rapid reductions in malnutrition burden.

Under the current setup delivering a set of essential nutrition interventions from diverse sectors is essential to create environments that foster optimal child growth and better nutrition for all.

Tips for Nutrition:

- Take regular meals
- Eat healthy diet which is balanced in the context of proteins, carbohydrates, fats, minerals & vitamins, healthy fibre and Water.
- Consume locally available seasonal fruits, vegetables, cereals, pulses, dairy product, meat, poultry and sea food.
- Make smart choice of food rich in nutrition from every food group.
- Use healthy cooking practices and avoid overcooking.
- Avoid processed junk or fast food.
- Use iodized salt to ensures adequate iodine intake.



World Spinal Cord Injury Day 5th September



World Spinal Cord Injury Day is observed on **5th September** globally as collective initiative of public & private sector, partners, foundations, organizations who come forward to generate awareness amongst the general public, about spinal cord injury, prevention and to facilitate an inclusive life for persons with spinal cord injury.

Spinal Cord Injury (SCI) Day is an opportunity for us to make positive changes in the lives of people with SCI, their families and improve prevention programs of Spinal Cord Injury around the world. On this day, organizations around the world undertake activities to promote access and inclusion and eliminate obstacles that people with Spinal Cord Injury face every day in their efforts to pursue their goals.

The spinal cord is a bundle of nerve fibres carrying incoming and outgoing messages between the brain and the rest of the body, enabling human beings to walk, run, stand, sit, grasp, eat & procreate. It is a long, fragile tube like structure that begins at the

end of the brain stem and continues down through spine at back of neck, chest and abdomen, almost to the bottom up to the tail bone. It is covered with a bony structure, the Vertebral column which is made up of twenty six individual back bones called vertebrae. It is also the centre for reflexes.

Unlike other parts of body, the spinal cord does not have the ability to repair and regenerate itself if it is damaged and effects of injury are lifelong, irreversible & permanent. With no known cure at this point in time, a spinal cord injury becomes a lifelong disability. However, with quality rehabilitation, a person with Spinal Cord Injury can lead a vibrant and independent life.

It is indeed a fact of life that getting a spinal cord injury is the most devastating incidence in an individual's life. It can happen to anyone and anywhere. Therefore, it is of utmost importance that the management and the global awareness regarding prevention of spinal cord injury get full attention and is brought into the limelight.

World Spinal Cord Injury Day 5th September

Injury to spinal cord most commonly occurs because of trauma due to falls, road accidents, sports injuries, assault and violence. Most of these injuries are due to the avoidable reasons such as reckless and unsafe driving, driving under the influence of alcohol causing road accidents, falls or violent fights.

Spinal cord injury leads to multiple disabilities at one stroke causing devastating blow on injured person's physical, mental, social, sexual, occupational aspects of life and eventually disturbing his entire lifestyle and consequently compromising quality of life.

Signs & Symptoms of Spinal Cord Injury depends on extent and level of injury. Usually muscle weakness, paralysis and loss of sensation appear below the level of injury. Breathing problems, problems in heart rhythm, blood pressure, loss of bowel & bladder control and sexual dysfunction are often associated with spinal cord injury.

Diagnosis is made by *Radiological examination* of Spine like X-RAY, Computerised Axial Tomography (CAT) & Magnetic Resonance Imaging (MRI).

Treatment includes treatment of cause, maintenance of vital functions and other symptomatic treatment.

Rehabilitation plays an important role and with quality rehabilitation a person having Spinal Cord Injury can lead an independent and vibrant life.



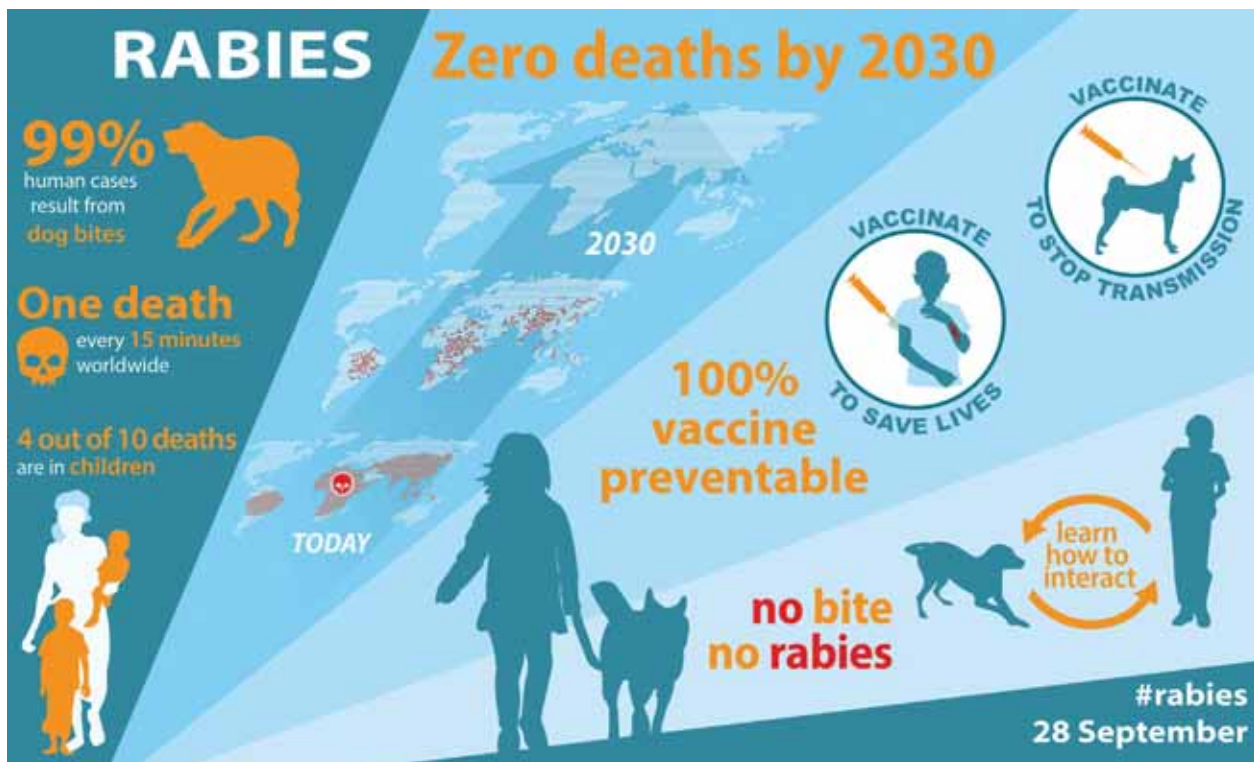
Signs & Symptoms of Spinal Cord Injury

Prevention includes prevention of roadside accidents by driving safely, avoiding rash and reckless driving, not driving under the influence of alcohol and avoiding ride with someone under influence of alcohol. Wearing a helmet, seat belt, wearing other safety guards and protective devices protects from injury.

Spinal cord injury is more than not being able to walk: it affects basic bodily functions such as loss of feeling, bladder, bowel and sexual function, the ability to control breathing and body temperature



World Rabies Day – 28th September 2017



World Rabies Day is celebrated annually on 28th September to raise awareness about rabies prevention and to highlight progress and the initiatives being taken to control this alarming disease. The World Rabies Day also coincides with the death anniversary of Louis Pasteur, the French chemist and microbiologist, who developed the first anti-rabies vaccine.

Although, rabies is a hundred per cent preventable disease, yet thousands of people die from the disease all around the world. World Rabies Day is, therefore, an opportunity to reflect on the efforts taken at various levels, to control this deadly disease in order to eliminate all human deaths from rabies.

Rabies is a disease that is caused by the rabies virus, most commonly transmitted to human beings through dog bite but can also be from bats, racoons, and foxes bite. Ninety-nine per cent of human deaths is caused by dog-mediated rabies. Entering human body, rabies virus attacks the central nervous system causing severely distressing neurological symptoms before death.

Transmission: infection follows a deep bite or scratch

from an animal, most commonly a dog with rabies. Human deaths following exposure to foxes, racoons, skunks, jackals, mongooses and other wild carnivore host species are very rare, and bites from rodents are not known to transmit rabies. Transmission can also occur when infectious material comes into direct contact with human mucosa or fresh skin wounds. Human-to-human transmission through bites has never been confirmed.

Symptoms: may appear typically from one to three months but may come as early as one week and as late as one year depending upon location and severity of bite. Initial symptoms of rabies include fever with pain and unusual or unexplained tingling, pricking, or burning sensation (paraesthesia) at the wound site. As the virus spreads to the central nervous system, progressive and fatal inflammation of the brain and spinal cord develops. There are two forms of the disease:

Furious rabies exhibit signs of hyperactivity, excitable behaviour, fear of water (hydrophobia) and sometimes fear of fresh air (aerophobia). Death occurs after a few days due to cardio-respiratory arrest.

World Rabies Day – 28th September 2017

Paralytic rabies exhibit muscles paralysis, starting from the site of the bite progressing to coma and death.

Diagnosis: Current diagnostic tools are not suitable for detecting rabies infection before the onset of clinical disease. Clinical diagnosis is made by rabies-specific signs of hydrophobia or aerophobia. Human rabies can be confirmed in post mortem by various diagnostic techniques that detect whole viruses, viral antigens, or nucleic acids in infected tissues.

Prevention: *Eliminating rabies* in dogs: Rabies is a vaccine-preventable disease in dogs and pets. Vaccinating dogs is the most cost-effective strategy for preventing transmission of rabies in human beings. Dog vaccination reduces deaths attributable to rabies and the need for post exposure prophylaxis after dog bite.

Pre-exposure immunization: Human rabies vaccines exist for pre-exposure immunization. These are recommended for people in certain high-risk occupations and travellers to rabies-affected, remote areas.

Post-exposure prophylaxis is the immediate treatment of a bite that prevents virus entry into the central nervous system and consists of: (1) extensive flushing and washing of the wound with soap, water and povidone iodine for at least 15 minutes as soon as possible after exposure, (2) course of potent and effective rabies vaccine and

(3) administration of rabies immunoglobulin (RIG), if indicated. Effective treatment soon after exposure to rabies can prevent the onset of symptoms and death.

There's no way to find out whether the animal has transmitted the rabies virus to the person and the treatment to prevent the rabies virus from infecting the body is recommended after every bite. The biting animal should never be killed. If possible the animal should be observed daily because death of the animal confirms the rabies infection in the animal.

Exposure in the form of touching, feeding or licks on intact skin does not need any post exposure treatment but minor scratches or abrasions without bleeding will require immediate vaccination and local treatment of the wound. Single or multiple skin-deep bites or scratches, licks on broken skin; contamination of mucous membrane with saliva from licks, and contacts with bats call for Immediate vaccination and administration of rabies immunoglobulin along with local treatment of the wound.

Awareness on rabies and preventing dog bites: Education and information about responsible pet ownership, dog behaviour & bite prevention and immediate care measures after a bite is essential, for both children and adults.



5 WAYS TO DE-STRESS YOURSELF



GRIN AND BEAR IT ▶

Laughing or forcing your facial muscles to smile sends a message to the brain signaling safety, generating positivity, lowering heart rate and decreasing stress levels.



CRAFTING ▶

Repetitive motions like the fine motor skills used to knit, crochet or make jewelry can soothe stress and anxiety. The repetition of a sound or movement helps fulfill mindfulness practice.



MUSIC ▶

Listen or sing to songs with steady rhythms and catchy tunes. Singing releases hormones found to alleviate anxiety and stress. Music helps to soothe your mind and soul.



WALK IT OFF ▶

Go out for some fresh air and take a stroll around the neighborhood. Your body will release endorphins, reducing stress levels and lowering blood pressure. It helps clear your mind, too.



ENJOY LIFE ▶

Simple things like a warm bath or hanging out with friends can give you a much needed break from the stressors in your life. Relax, slow down and breathe. Don't let stress ruin your life

RNI No. DELBIL 11537



Published by: Dr. Niraj Kulshrestha, Director CHEB on behalf of CHEB,
Directorate General of Health Services, Ministry of Health & Family Welfare
Kotla Raod, New Delhi, Email: dir.cheb@nic.in

Designed & Printed by: Aravali Printers & Publishers Pvt. Ltd., New Delhi, www.aravaliprinters.com