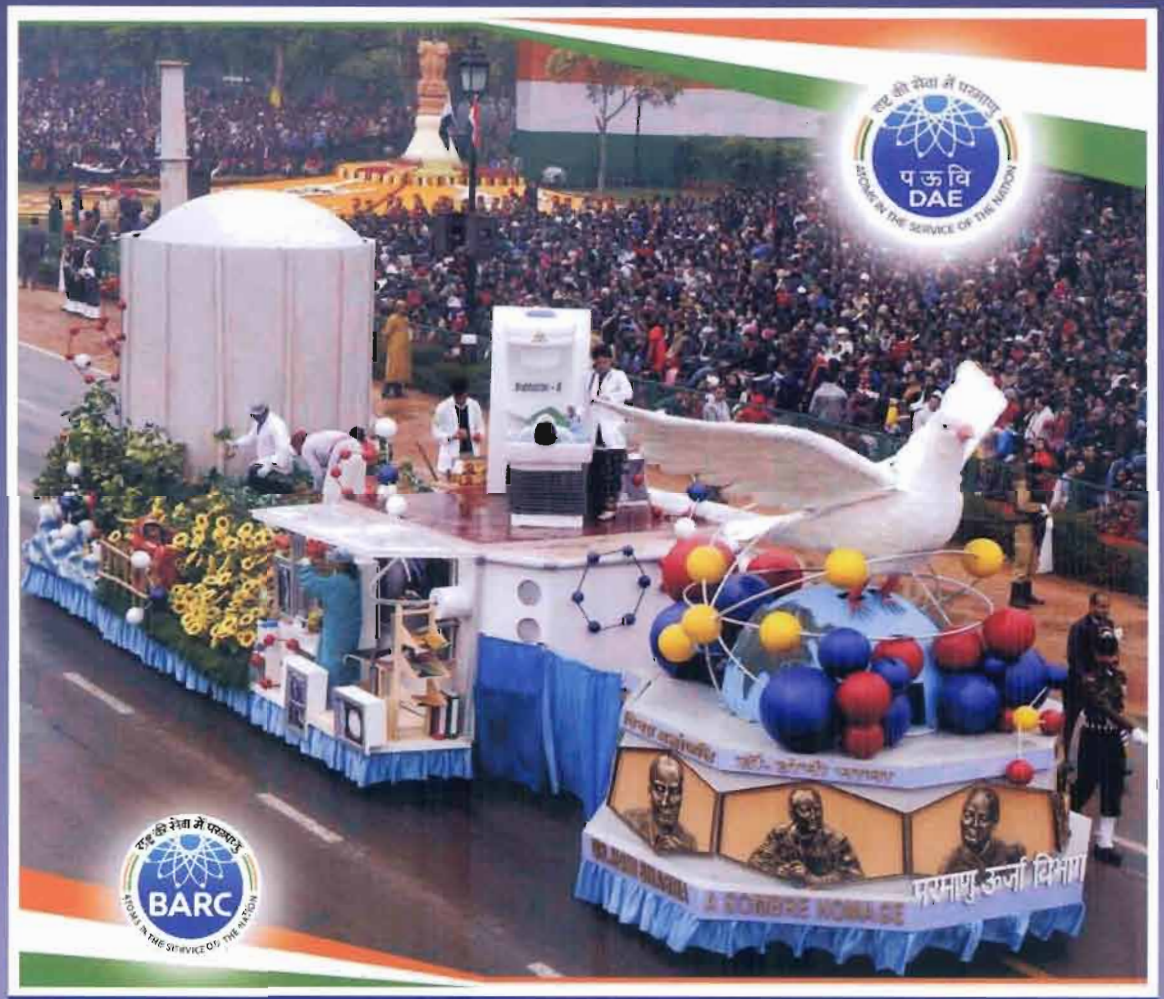
पल्स Pulse

खंड 15
Volume 15

अप्रैल 2015
April 2015



Celebrating the spirit of Diamond Jubilee Year
Department of Atomic Energy Tableau in the 66th Republic Day Parade 2015 at Rajpath, New Delhi

अंशदायी स्वास्थ्य सेवा स्कीम
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भाभा परमाणु अनुसंधान केंद्र
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Maharashtra Medical Council Accredited Multispeciality CMEs Conducted at BARC Hospital in the Year 2014

Date	Topic	Speaker
07/02/2014	How Strong Is My heart? Perioperative Cardiac Evaluation	Dr. Darshan Jhala
	Keep My Heart Beating : Intraoperative Cardiac Emergencies	Dr. V.T. Shah
	What Can Go Wrong While Surgery is on - Other Non Cardiac Emergencies	Dr. Atul Kulkarni
04/04/2014	The Better Half (Are Women More Prone to Depression)	Dr. Nilesh Shah
	Challenges in Pediatric Anesthesia	Dr. Pradnya Sawant
	Imaging of Early Detection of Prostate Cancer : Role of Contrast And Elastography	Dr. Mukund Joshi
06/06/2014	Newer Investigations and Management of Drug Resistant TB	Dr. Jayalakshmi Kutty
	Imaging Interstitial Lung Disease	Dr. Nimeesh Kamat
	Anxiety Disorders in General Medical Conditions	Dr. Jahnavi Kedare
08/08/2014	Acute Coronary Syndrome	Dr. G.R. Kane
	Management of Low Platelets : Case Studies	Dr. Balakrishna Padate
	The ABC of CBC	Dr. Kunal Sehgal
10/10/2014	Immunization : Current Perspective	Dr. Nitin Shah
	Viral Hepatitis B and C : Concepts In Investigations And Management Strategies	Dr. Prabha Sawant
	An Overview of MDR - XDR TB	Dr. Prashant N. Chhajed
19/12/2014	Newer Chemotherapy Drugs	Dr. Sudeep Gupta
	Common Ophthalmic Conditions in Pediatric Population	Dr. Sunil Moreker

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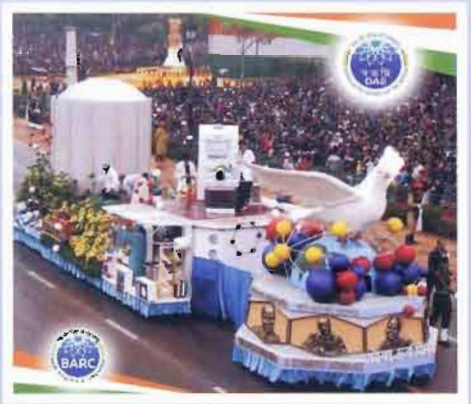
BARC HOSPITAL NEWSLETTER

खंड 15 Volume 15 | अप्रैल 2015 April 2015



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From the Editor's Desk....

In this issue of 'Pulse' an attempt has been made to touch upon preventive aspects of a few diseases. We are aware that environmental factors and genetic predisposition are major factors in the causation of diseases; however lifestyle modifications can play a role in their prevention, to a great extent.

It is recommended that adults and children should ideally visit their doctors for regular checkups. This will help in screening causes for diseases, identifying risk factors, discussing tips for a balanced lifestyle and staying up-to-date with immunizations.

In our setup, medical officers in various dispensaries and BARC hospital have initiated such checkups, for the welfare of the beneficiaries. In dispensaries, health talks are being delivered to the beneficiaries where preventive aspects of various diseases are being focused upon. The objective is to make people aware of various factors leading to such diseases and tips for their prevention.

Incidentally 7th April 2015 is World Health Day. The theme of the World Health Day is 'Food Safety'. Unsafe food is linked to deaths of an estimated 2 million people annually. WHO helps countries prevent, detect and respond to food-borne disease outbreaks in line with the Codex Alimentarius, a collection of international food standards, guidelines and codes of practice covering all foods and the main food processes. WHO's five keys to safer food for both vendors and consumers for handling and preparing food are:

- Keep the food clean
- Separate raw and cooked food
- Cook food thoroughly
- Keep food at safe temperature
- Use safe water and safe raw material

(Ref: http://www.who.int/campaigns/worldhealthday2015)

Last but not the least my task would be incomplete if I don't touch upon the prevention of infection in the medical setup. I would like to emphasize that frequent hand washing by caregivers in the hospital and dispensaries is the key to success in the prevention of infection.

"For me, I am driven by two main philosophies: know more today about the world than I knew yesterday and lessen the suffering of others. You'd be surprised how far that gets you."----Neil deGrasse Tyson.

Amrita

(Dr. Amrita Misri)

Adult Vaccination: A Quick Glance

Dr. S. Rajeshwari
Medical Officer
and
Dr. A.V. Kulkarni
Medical Officer In-charge, Mandala dispensary
Overall Incharge, Dispensary Services

Adult vaccination is the most ignored part of healthcare services. Majority of doctors as well as public think that immunization is only for children. Adults require immunization to address waning immunity and to establish immunity against common diseases. In addition immunization of adults prevents infection and consequent exposure of young children and others at increased risk.

In geriatric population, large numbers of cases with incomplete immunization are observed. This may be due to lack of recognition of the importance of adult immunization, insufficient recommendations, lack of knowledge among health workers, misunderstanding of risks of vaccine and benefits of disease prevention, lack of understanding of vaccine safety, efficacy and availability. Presently there is lack of publicly funded vaccines and reimbursement to vaccine providers. There is also a lack of coordinated immunization programs and regulatory or legal requirements. Adult immunization is an emerging issue. All health care providers should provide adults under their care with factual information about immunization including information about vaccines, expert recommendations regarding the use of vaccines, benefits and risks of vaccination, availability,cost of the vaccine, possible consequences of declining a vaccine.

Adults are susceptible to tetanus, influenza, pneumococcal infection (pneumonia,sepsis and meningitis), hepatitis A, hepatitis B, cholera, typhoid, Varicella, HPV and MMR diseases which can be prevented through vaccines.

Immunization schedule for adults in easy-to-read format is given below. National immunization programme recommended by the Govt of India available on line. www.medguideindia.com/immunization/vaccination-scheduled-in-adults.

VACCINATION SCHEDULE FOR ADULTS

Diseases	Dose	Route	Age Group (yrs)		
			19-49 yrs	50-64 yrs	>64 yrs
Tetanus, Diphtheria, Pertussis (Td/Tdap)	0.5ml	IM	1 dose Td booster every 10 yrs		
			Substitute 1 dose of Tdap for Td		
Human Papillomavirus (HPV)	0.5ml	IM	3 doses (females)##		
Measles, Mumps, Rubella (MMR)	0.5ml	SC	1 or 2 doses		
Varicella	0.5ml	SC	2 doses (0 and 4-8 wks)	2 doses (0 and 4-8 wks)	
Influenza	0.5ml	IM	1 dose annually	1 dose annually	
Pneumococcal (polysaccharide)	0.5ml	IM	1-2 doses		1 dose
Hepatitis A	1.0ml	IM	2 doses (0 and 6-12 mos, or 0 and 6-18 mos)		
Hepatitis B	1.0ml	IM	3 doses (0, 1-2mos and 4-6 mos)		
Typhoid	0.5ml	IM	1 dose every 3 years		

- All persons who meet age requirements and have a history of immunization are to be given a booster dose every 10 years. For those with improper immunization or lack of immunization documentation, two initial doses are to be given at interval of a month, followed by the same booster dose schedule of 10 years.
- For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack of documentation of vaccination or have no evidence of prior infection).
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle or other indications).

• *## In India, vaccination is recommended till age of 45 years, while it is given till age of 49 years in some European countries.*

ZOSTER VACCINE; SINGLE DOSE VACCINE RECOMMENDED IN ADULTS ABOVE 60 YRS. IRRESPECTIVE OF EARLIER ZOSTER INFECTION

Additional Reading:

1. *Indian J Community Med.* Oct 2008; 33(4):214–218.

2. National Immunization Programme recommended by Govt. of India available online. On www.medguideindia.com/immunization/vaccination-scheduled-in-adults

3. Prabhu Prakash. *Journal of the Indian academy of Geriatrics* Sept 2013; 9 (3).

4. Senior support; An informative booket for Healthy, active and graceful aging by Indira Jaiprakash, 2012.

5. D.N.Moharana and S. Moharana. Geriatric medicine in the Indian Context; *Quarterly Medical Review* 58 (1), Jan –Mar, 2007

6. S.V. Ramanamaurty. An overview of Geriatric problems Gericon, 2007.

7. Asha Krishnakumar, the old and the ignored,21(19), Sept 11-24, 2004.

8. API guide lines on adult vaccination. JAPI. vol. 57 April 2009, 345 -356.

9. Indian guideline for vaccination in older adults developed by the Geriatric Society of India, New Delhi.

Prevention of Osteoporosis

Dr. Volga More, Medical Officer
and
Dr. K. B. Bantwal

Medical Officer Incharge Anushaktinagar (West) Dispensary,
Incharge Dispensary Services II.

Definition: Osteoporosis is a silently progressing metabolic bone disease characterized by an absolute decrease in bone mass, deterioration of micro architecture of the bone tissue leading to increased skeletal fragility and an increased risk of fractures. The common sites of fracture are the spine, hip, wrist and the ribs.

Classification

Primary: Post Menopausal, Age related, Idiopathic

Secondary:

A) Endocrinal: Diabetes Mellitus, Hyperthyroidism, Hyper Parathyroidism

B) Drug induced: Anti convulsants, Steroids, Thyroid supplements

C) Nutritional: Calcium deficiency, Protein deficiency, Magnesium deficiency, Phosphorus deficiency, Malabsorption, Malnutrition, Alcoholism.

D) Others: Rheumatoid Arthritis, Smoking, Immobilization.

Female Athlete Triad: Disordered eating + prolonged amenorrhea +low bone mass.

Risk factors

Non modifiable: Age > 50 years, Females, Caucasians, Thin built, Early Menopause, Late Menarche, Family history of Osteoporosis, Medications, history of fracture in past.

Modifiable: Sedentary lifestyle, Obesity, Smoking, Early Hysterectomy, Diet –low Calcium, low Protein, low Phosphate, high Alcohol, high Caffeine, Athletes.

When to suspect

Clinically, the diagnosis of established Osteoporosis is often made after a fracture that requires medical intervention or because of pain and alteration of functional capacity. The fracture occurs usually as a result of minimal trauma. Minimal trauma is considered to be a force same or less than that involved in falling from a standing height or less. A loss of 4 cm or more in height over 10 years is associated with a significant decrease in bone mineral density. The length of the long bones of the body remains unchanged. The loss of height occurs in the upper spine.

Severe Kyphotic deformity of the spine can occur as a result of Vertebral fractures. This results in a stooped or hunched posture.[Dowager's hump] Hiatus hernia can occur as a result of decrease in abdominal volume.

Increased abdominal pressure can lead to Stress incontinence.

Shortness of breath occurs due to changes in posture and shape of the Thorax.

Investigations: To rule out secondary causes of Osteoporosis.

Blood tests: S. Calcium, S. Phosphate, S. PTH, S. Vitamin D3, Estradiol, F.S.H., Testosterone in Males, 24 hours Urinary Calcium.

Bio chemical markers are used to assess skeletal turnover.

Bone formation markers: Total Calcium, S. Phosphorus, Bone specific S. Alkaline Phosphatase, S. Osteocalcin, Type I Collagen Pro peptides-P1CP[Carboxy terminal Pro peptide] and P1NP[Amino terminal Pro peptide].

Bone resorption markers: Urinary Hydroxy proline and Serum or Urine levels of N terminal

[NTX] and C terminal [CTX] cross linked telo peptides. The use of Bio chemical markers is limited by large bio variability and measurement variance. They may have a role in the assessment of fracture risk.

Diagnostic imaging:

Bone mineral density

It is measured over the Lumbar spine and upper part of the Hip where the ratio of Trabecular to Cortical bone is the maximum. It is a painless and non invasive procedure with minimal exposure to radiation. There is a statistical association between poor bone density and a higher probability of fracture.

It is reported as:

T score: The number of Standard Deviation above or below the mean for a healthy 30 year old adult of the same gender and ethnicity.

Z score: The number of Standard Deviation above or below the mean for the patient's age, gender and ethnicity.

According to W.H.O.-

Normal T score = -1.0 or higher
Osteopenia = -1.0 to -2.5
Osteoporosis = -2.5 or lower

The relation between Bone Mineral Density and the risk of fracture is continuous. There is no absolute cut off value to define a pathologic state.

Candidates for B.M.D.

All women > 65 years
Younger Post Menopausal women with risk factors
Post Menopausal women with fracture
Patients on long term Steroid therapy
Primary Hyper Parathyroidism

Significance of B.M.D.:

Identifies Osteoporosis
Determines risk for fracture
Measures response to treatment

Frequency of Measurement:

Repeat densitometry is recommended at 2-5 years according to the previous values.

Types of B.M.D.

DEXA=Dual Energy X ray Absorptiometry
Q CT=Quantitative Computed Tomography
QUS= Quantitative Ultrasound
SPA= Single Photon Absorptiometry
DPA= Double Photon Absorptiometry
DXR= Digital X ray Radiogrommetry

DEXA: Is the Gold standard for the diagnosis of Bone Mineral Density. It can detect even a 1 % loss of bone mass. It gives a quantitative measure of bone mass i.e. An approximate measure of bone strength. It gives a 2 dimensional area corrected result.Delineation of bone is not possible. It can give erroneous high readings in O. A due to the presence of Osteophytes.Serial readings must be taken on the same machine.It is economical and the dose of radiation is also low [1-2 mrem].

Q CT: Gives a true volumetric figure. It is more precise. It can differentiate between Trabecular and Cortical bone, thus can be used for individual analysis. Serial evaluations are possible. It is expensive and the dose of radiation is more [100-1000 mrem].

Fracture Risk over 10 years in women:

Age	T score = -1	T score = -2.5
50 years	6%	11%
60 years	8%	16%
70 years	12%	23%
80 years	13%	26%

Prevention

There is no cure for Osteoporosis—it can only be prevented. The primary defense in prevention is the building of strong bones. Prevention can be categorized as:

Primary Prevention: I.e. Identification of those at risk of developing Osteoporosis.

Secondary Prevention: Treatment of established cases of Osteoporosis in order to prevent further complications.

A healthy lifestyle with respect to diet, adequate exposure to sunlight and exercise can have a major positive impact on bone metabolism and bone health. A fracture prevention strategy consists of increasing peak bone mass in the growing years and reducing subsequent bone loss throughout life.

Calcium

Lifelong adequate Calcium is needed for acquiring and maintaining peak bone mass. Supplementation is necessary when the recommended dietary intake is not achieved. Calcium supplementation has a positive effect on Bone mineral density and also reduces rate of bone loss.

Pre Menopausal –1000 mg/day
Post Menopausal-1200 mg/day

Foods: Milk, Yoghurt, Cheese, Margarine, Tofu, Broccoli, Almonds, Soy products and fortified juices and cereals.

1 cup Yoghurt / Milk = 30% Daily value
1—1.5 oz Cheese = 30 % Daily value
3 oz Salmon/ Sardines= 18—32 % Daily value
1 cup cooked Soy beans=26 % Daily value

Our diet should also contain adequate amounts of S. Phosphorus and S. Magnesium.
S. phosphorus: Milk, eggs, meat and fish. Requirement= 500 mg/day.
S. Magnesium: Cereals, Pulses, Tea, Coffee. Requirement=200-300 mg/day.

Vitamin D

D 3= Cholecalciferol—synthesized in skin under the influence of UV rays.

D 2= Calciferol—present in irradiated food, yeast, bread, fungi, milk.

Without adequate Vit D, the body is unable to absorb Calcium from the diet.

< 50 years = 400—800 I.U / day = 0.25 mcg Calcitriol.
>50 years =800—1000 I.U /day.

Sources: Sunlight: [290-315nm]-30 min of adequate exposure to arms and face can provide the daily requirement. Skin synthesis of Vit D is negatively influenced by latitudes > 42^0N or > 42^0S, winter months, thin skin, dark pigmented skin, obesity, Bowel surgery, clothes and use of sunscreens.

Diet: Egg yolk, salt water fish, liver, fish oil and fortified foods like Milk & Margarine.

0—20 IU = Deficiency
20—30 IU = Insufficiency
30—100 IU = Sufficiency
> 100 IU = Toxicity

Vitamin D deficiency is rampant in India mainly due to poor exposure to sunlight, dark pigmentation of skin and an inadequate diet. Vitamin D deficiency or insufficiency has adverse effects on Calcium metabolism, Osteoblastic activity, matrix ossification, Bone density and on Bone re modeling.

Exercise:

Regular weight bearing and muscle strengthening exercise must be done. It increases bone density, improves balance, strength and flexibility. Better neuro muscular control can be achieved. It should be done for 30 min daily on at least 4 days of the week. Eg: Walking, running. Dancing, step aerobics, weight lifting, climbing stairs, Tennis, Badminton, Cycling.

The best time to build bone density is during rapid growth. Peak bone density can be achieved by regular exercising during childhood and adolescence.

Avoid Smoking and Alcohol

In some high risk cases, pharmacological interventions may be necessary in order to prevent Osteoporosis.
Since this article highlights the preventive aspects of Osteoporosis, treatment of established cases of Osteoporosis is not dealt with.

Take home message

Calcium intake = 1000—1,200 gm / day.
Phosphorus intake=500 mg / day.
Magnesium intake=200—300 mg/day.
Vitamin D intake= 400—800 I.U/ day.
Avoid Smoking and Alcohol.
Regular exercise.
Periodic assessment of skeletal status.
Prophylactic agents when needed.

Title: A Study of prevalence of Osteopenia and Osteoporosis in Post Menopausal women at Deonar West Dispensary, Anushaktinagar.

Dr Volga More, Dr K. Bantwal, Dr A.V. Kulkarni.

Materials and Methods

A longitudinal study was carried out in 82 Post Menopausal women in the age group of 45-75 years from July 2012 to Dec 2013. Women with co-morbid conditions like DM, HT, Thyroid disorders, Rh. Arthritis, Epilepsy,Br Asthma. Were excluded..All the participants were non smokers,

non alcoholic and ambulatory.The women were neither pregnant nor on any medication that might affect bone turnover.

Based on the time since Menopause, the women were divided into 2 groups

Early Menopause < 5 years of onset.
Late Menopause > 5 years of onset.

Height and Weight of all the participants was measured.

Body Mass Index was calculated from the values using the formula:

$$B.M.I = \frac{\text{Wt in Kg}}{(\text{Ht})^2 \text{ in Mt.}}$$

Blood was analysed for S. Calcium, S. Phosphorus S. Alkaline Phosphatase, Parathormone, Renal functions and Vit D3 levels to rule out other metabolic bone diseases.

Bone Mineral Density was measured using Q-CT. A risk factor questionnaire was given to all subjects to assess the risk factors for Osteoporosis.

Observations:

Normal BMD levels were seen in 34 women.
Osteopenia was seen in 28 women.
Osteoporosis was seen in 20 women.

Conclusion:

Osteopenia & Osteoporosis is widely prevalent in Post Menopausal women. Early diagnosis in such women will prevent the morbidity and mortality associated with Osteoporosis by adopting preventive measures like Calcium and Vitamin D supplementation and the judicious use of anti resorptive agents when needed.

Additional Reading

1] Journal of American Osteoporotic Association.
2] Journal of Bone and Mineral Resorption.
3] British Journal of Radiology.

Co-morbidities: the risk factor for Surgical Site Infections (SSI)

Many factors influence the incidence of Surgical Site Infections (SSI). The classifications of surgery i.e (clean/ clean contaminated/contaminated or dirty), use of prosthetic implant, duration of surgery and associated co-morbidities have great impact on the risk of SSI.

The American Society of Anesthesiology (ASA) has devised classification system of preoperative risk score depending upon the physical status and the co-morbidities present at the time of surgery.

Physical Status	ASA score
A normal healthy patient	1
A patient with a mild systemic disease	2
A patient with a mild systemic disease that limits activity but is not incapacitating	3
A patient with an incapacitating systemic disease that is constant threat to life	4
A moribund patient not expected to survive 24 hours with or without operation	5

ASA score > 2 is associated with an increased risk of wound infection. This risk is an additional risk to that of classification and duration of surgery. Duration of surgery and co-morbidities have a great impact on SSI as the operation classification. These two risk factors can be used to calculate a risk index. RI =0, in absence of any factor; RI=1, when one factor is present; RI=2, when 2 factors are present.

Ref: Consensus guidelines for the prevention of infections in the operating room, 2nd edition, July 2005.

- **Dr. Amrita Misri,** Convener, Infection Control Committee, BARC Hospital, Mumbai.

Body Postures and Corrective Measures

Dr. Vandana Pathade

Medical Officer, Vashi Dispensary

Introduction: Good posture is an easy and important way to maintain a healthy mind and body. This article describes several ways to develop and maintain good posture in patients with knee, hip, or ankle problems and how assessing posture can help us locate problems stemming from different body parts.

Definition: Posture is the position in which you hold your body upright against gravity while standing, sitting or lying down.

Types of Body Postures

Posture is both static (sitting in one position) and dynamic (maintaining balance.)

Good posture: Good posture actually means keeping three natural cervical, thoracic and lumbar curves in balanced alignment.

Bad posture: It is a defective relationship between the several parts of the body that produces greater tension in the supporting structure.

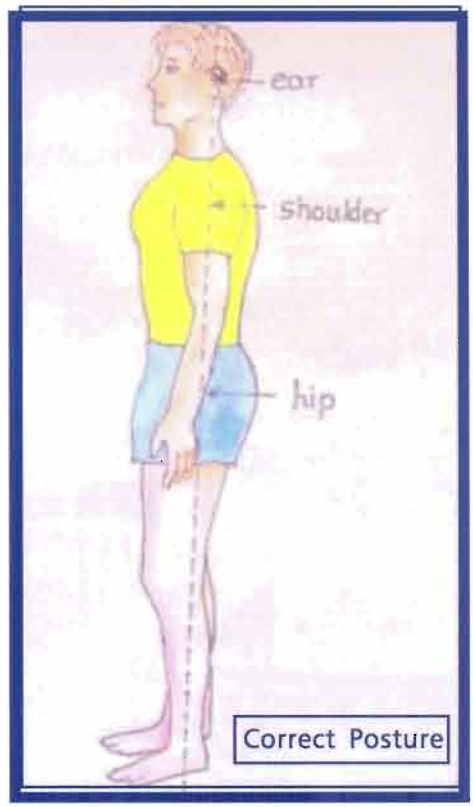
Easy posture: It is a good, symmetrical and balanced position.

Fatigue posture: It is an asymmetrical or sagging posture.

Rigid posture: Posture of attention which leads to increase in load on the joint muscles.e.g. military man's posture.

Faulty posture: Postural deviations will occur with an increase or decrease of body curvature. They can lead to prolonged postural strain.

When our posture is correct, the ears, shoulder, hips, knees, ankles should align in one straight line.



Causes of poor posture

- Careless sitting (e.g slouched position for long time), standing and poor sleeping habits.
- Poor eyesight.
- Hearing difficulties.
- Obesity.
- Foot problems or improper shoes.
- Poor sleep support (mattress).
- Musculoskeletal system problems.
- Accidents, injuries and falls.
- Poorly designed furniture.
- Heredity, environmental, socioeconomic, emotional factors, poor diet.

Negative effects of poor posture

- Eye strain.
- Tension headaches.
- Makes one look older than one actually is.

- Low back pain (slouching increases strain on low back and increases pressure on intervertebral disc).
- Affects the range of motion of joints over time and causes knee joint pain.
- Stunted growth in children.
- Causes irregular/abnormal curve of spine(kyphosis/ scoliosis/lordosis/flat back).
- Affects a child's physical, emotional and intellectual capabilities.
- Practice of hunching for long time worsens breathing trouble in asthmatic child.

Correcting postural faults

Postural faults must be accurately analyzed before they can be effectively corrected.

Examination - should include - observation of the patients as they sit and move about,

- spinal alignment if appropriate,

- deviation from ideally erect postures using plumb lines
- limb length and girth measurements

Corrective measures and postural tips for different activities which are required for our daily routine:

Standing

- Head is held straight, not tilted or turned to one side.
- Chest should be lifted
- Let the arms hang naturally by the sides
- Feet should be shoulder width apart
- Maintain most of the weight on the balls of the feet (not on heels)

Posture while sitting at a desk / table

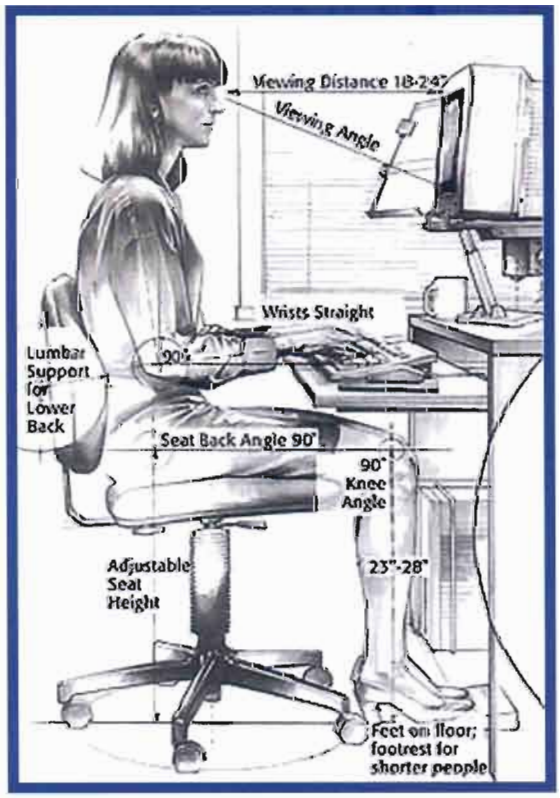
- Avoid slouching or leaning forward. Lift your chest.
- Feet should be resting on the floor with knees and hips bent 90 degree.
- Don't sit cross legged.
- Top of the desk should be slightly higher (around 5 cm) than the height of the your elbow flexed to 90 degree.
- You can lean forwards slightly (around 30°) when working (writing).

Correct sitting posture in chair

- Sit up with your back straight and your shoulder back.
- Buttock should touch the back of your chair.
- Make sure to get a proper back support - A small, rolled up towel can be used.
- Avoid sitting in the same position for more than 30 minutes.
- Take a break, walk around and stretch and again get back to work (writing or reading).

Correct sitting posture in front of computer / TV

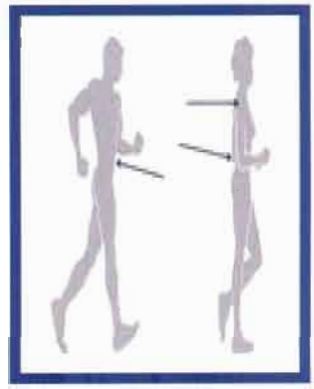
- Don't lean forward.
- Bring your chair close to the keyboard so that you can rest your arms on the chair or desk. Keep your shoulders relaxed.
- Back rest up to support low back at angle 90 - 100 degree to the seat.
- Make sure that the screen is adjusted to eye level.



While lifting things

- You should not lift anything that is in an awkward shape or is more than a quarter of your body weight.
- Always bend your knees and straighten your legs to prevent injury to low back.
- Put your feet apart, hold the object close to your body and keep your arms bent.
- Avoid lifting heavy objects above waist level.

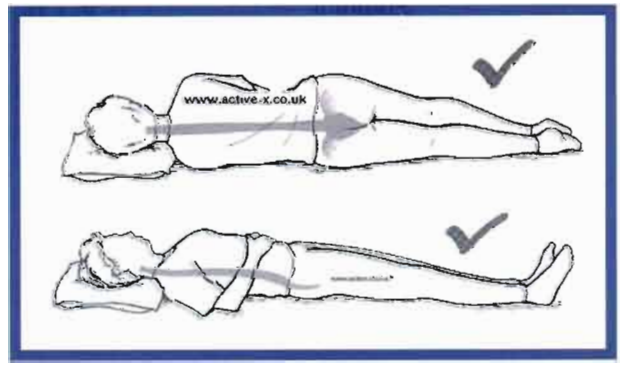
Correct Walking Posture



- Stand up straight.
- Do not arch your back.
- Chin up (parallel to the ground). This reduces strain on neck and back.
- Shrug once and let your shoulders fall and then relax your shoulders.

While lying down

- Select a firm mattress and box spring set that does not sag.
- Pillow (with minimum thickness) should be under your head, neck and upto your shoulder level.



Prevention of Backpack Problem in School Children

- To maintain normal posture and lung function in children, ideal bag's weight should be <5% to 10% of body weight.

- Bag should be wide, padded with adjustable shoulder and adjustable hip straps (waistband) to transfer some of the load from spine to the pelvis.

Conclusion

The first step towards improving poor posture is recognizing it and trying to alter it with the right one immediately. Maintaining a good posture is a habit that one has to get accustomed to slowly.

Additional Reading

- Essentials of orthopedics for physiotherapists- John Ebnezar Jaypee
- Textbook for rehabilitation - S. Sunder.
- ergologic.net - A structured approach for improving your posture.
- Choudhary, B.S., Sapur, S., Deb, P.S. (2000) Forward Head Posture is the Cause of 'Straight Spine Syndrome' in Many Professionals. *Indian Journal of Occupational and Environmental Medicine* 4 (3), 122—124.

Walk For Health

Walking is the most fundamental form of physical activity. It is easy for people of every age, income, or ability. Numerous health benefits of walk:

- Controls and prevent hypertension
- Increases HDL-cholesterol levels (good cholesterol)
- Controls weight
- Increases bone density
- Decreases mental stress
- Improves circulation and posture

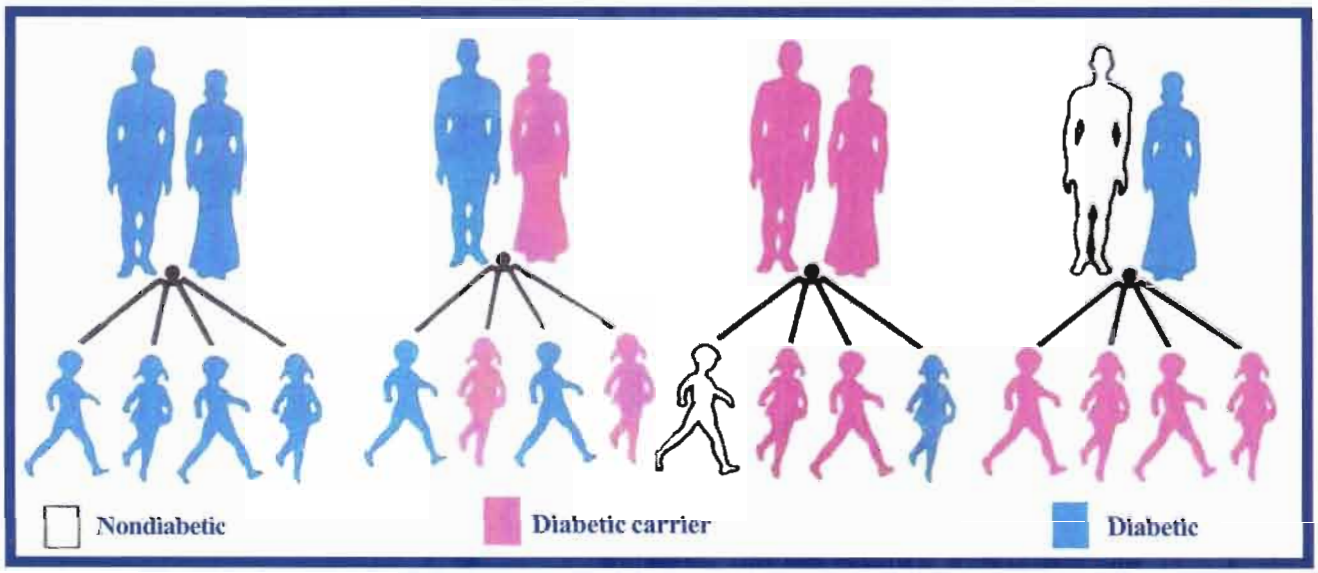
Walkathon at Anushaktinagar

Prevention of Diabetes - Primary & Secondary

डायबिटीस की रोकथाम - प्राइमरी और सेकंडरी

Dr. Kanchan Bantwal
Medical Officer Incharge Anushaktinagar (West) Dispensary
Incharge Dispensary Services II

Do your parents have Diabetes? क्या आपके माता और पिता मधुमेह से पीडित हैं?



Maintain normal body weight with healthy nutritional habits and physical exercise to prevent or delay the onset of Type 2 diabetes.

नियमित व्यायाम और सीमित आहार से यदि आप अपना आदर्श वजन को बनाए रखेंगे तो डायबिटीस को काबू में रख सकते हैं।

Do you over eat and have sedentary life style?

क्या आप जरुरत से ज्यादा खाते हैं? क्या आप व्यायाम नहीं करते ?

You may be pre-diabetic (fasting blood sugar 100 to 126mg% or post meal 140 to 200mg %) or its clinical counterpart - metabolic syndrome.

तो आप प्रिडायबिटीक (खाली पेट शुगर १०० से १२६ मि. ग्रॅ.% या पोस्ट मिल १४० से २०० मि.ग्र.% मेटाबॉलिक सिंड्रोम से पिडित हो सकते है।

You can prevent diabetes if you take right steps at this stage.

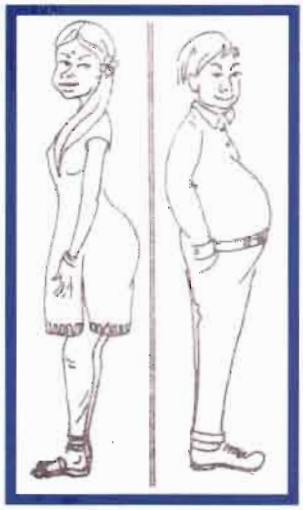
इस अवस्था को जान लीजिए और सही तरीका आजमाने से आप मधुमेह होने से रोक सकते है।

Primary Prevention

प्रायमरी रोकथाम

You are diagnosed as metabolic syndrome if any **three** or more of the following parameters are present.

यदि इनमें से कोई तीन चिन्ह आपमें पाए जाएंगे तो आप मेटाबॉलिक सिंड्रोम कहलाएंगे।



a) Fasting blood sugar >100mg%
क) खाली पेट ब्लड शुगर >100 मि.ग्रा.%

b) Serum Triglycerides >150mg%
ख) सीरम टैग्लिसरैड्स >150 मि.ग्रा.%

c) High Density Lipoprotein <40mg% in males
<50mg% in females
ग) हाई डेन्सिटी लैपोप्रोटीनम <40 मि.ग्रा.% पुरषों में
<50 मि.ग्रा.% महिलाओं में

d) Central Obesity - waist circumference
> 90 cms in males
> 80 cms in females
घ) कमर की ऊपरी भाग में जमा हुआ मोटापा >90 सें.मी. पुरषों में
>80 सें.मी. महिलाओं में

e) Blood Pressure > 130/85mm Hg.
.च) रक्त चाप >130/85 मी.मी.एचजी.

Simple method to know your optimum weight

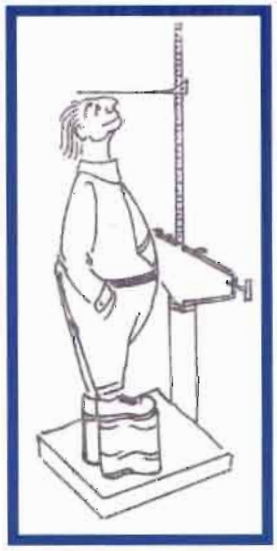
आदर्श वजन मालूम करने की सरल पद्धती

Height (in cms) – 100 = Optimum Weight (in kgs).
आपकी लंबाई (सेटिमीटर में) - 100 = आदर्श वजन (कि.ग्रा. में)

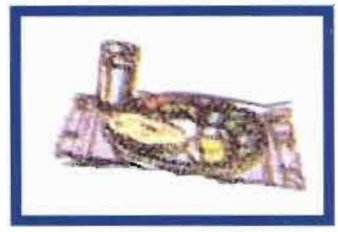
10% less than the optimum weight if > 40 years.
अगर आपकी उम्र > 40 वर्ष से ज्यादा हो तो आपके आदर्श वजन में से 10% काटना चाहिए।

How to control Pre-Diabetes or Metabolic Syndrome?

प्रिडायबिटीस या मेटबॉलिक सिंड्रोम कैसे कंट्रोल करें?



1. Develop **practical long-term eating habits** to keep your weight down for years. Have variety of foods with individual food preferences. **Moderately restrict calories, oil, and stop sweet food**. Aim gradual weight loss of 500 gms a week.
लंबी अवधि की खाने की अच्छी आदतें विकसित करें। आपका आहार विविध व्यंजनयुक्त हो जिसमें व्यक्तिगत रुचि को स्थान दें। कॅलरी और तेल पदार्थ को यथासंभव नियंत्रित रखे और मीठे पदार्थ का सेवन न करें- सप्ताह में ५०० ग्रॅम ही वजन कम करना आपका उद्देश्य होना चाहिए।

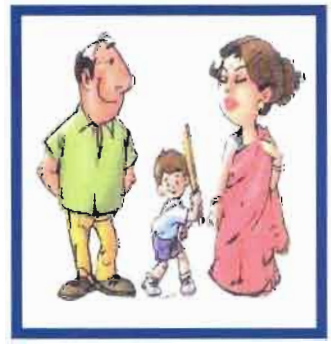


2. Regular daily brisk walk for 30 minutes helps to burn 180 calories and results in weight loss of more than 8 kg in 1 year.
कॅलरिस घटने एवं मासपेशियों की मजबूती के लिए दैनिक व्यायाम करें। प्रतिदिन आधा घंटा तेज़ चलने से १८० कॅलरी घटती है एवं परिणाम स्वरूप वर्ष में शरीर का वजन ८ किलो से अधिक कम होता है।

3. During **pregnancy** consume **balanced protein rich diet. Avoid poor weight gain or excessive weight gain** (or else your child will be born with defective pancreatic beta cells).
गर्भावस्था में योग्य प्रोटीनयुक्त आहार लेना चाहिए। आपका वजन सही मात्रा में बढें। (इसका असर बच्चे की पेंक्रियस की मजबूती पर असर पडता है।

4. **Breast-feeding** prevents future development of diabetes in **your child**.
स्तन पान बच्चे के लिए डायबिटीस के विरुद्ध एक बीमा है।

5. Your child at age 1 should weight not less than 8 kgs (or else child will develop defective beta cells). Also avoid excess weight gain in your child.
आपके बच्चे का वजन एक साल के उम्र पर ८ कि. ग्रॅ. से कम न हो और जरुरत से ज्यादा आहार भी नहीं देना है नही तो भविष्य में डायबिटीस की पीड़ा हो सकती है।



6. You have to **start** giving a **healthy traditional Indian Diet**

from childhood, avoid junk foods. Also inculcate in your child the importance of a regular daily exercise schedule.

बच्चे में अच्छे पदार्थों को खाने की रुचि बचपन से ही सिखाइए। बर्गर, चिप्स, फरसाण, पकोडे, केक, बिस्कीट, आईस्क्रिम जैसे आहार की आदते नहीं सिखाइए। प्रतिदिन नियमित व्यायाम करने हेतु प्रोत्साहन दीजिए।

Benefits of Daily Exercise

प्रतिदिन व्यायाम करने से होनेवाले लाभ

Burns excess calories (Prevents obesity);

अतिरिक्त कॅलरी का दहन

Improves good cholesterol (HDL-C);

अच्छा कोलेस्ट्रॉल (एच.डी.एल.सी) में वृद्धि

Release of endorphins (natural painkillers) which give sense of well being;

स्वाभाविक दर्द मारक रस शरी में पैदा होते है और चुस्ती प्रदान करते है।

Reduces Blood Sugar, Blood Pressure and Ischaemic Heart Disease, etc.

रक्तचाप, मधुमेह ओर हृदयरोग पर नियंत्रण

Type of Exercise & Calories burnt in one hour किस प्रकार के व्यायाम से शक्ति का कितना व्यय होता है?

Walking at comfortable pace (125 to 200);

घूमना -125-200

House-hold chores (washing utensils, clothes, sweeping, etc) (150 to 250);

गृहकार्य (बर्तन, कपडे धोना, झाडू लगाना) - 150 to 250

Gardening/Brisk Walking/ Kabadi, Kho-Kho (300 to 350)

बागवानी, तेजी से चलना, कबड्डी, खो-खो जैसे खेल (300 to 350);

Table Tennis (325 to 375)

टेबल टेनिस (325 to 375);

Yogasanas (350 to 400)

हल्का व्यायाम योगासन (350 to 400)

Cycling/Dancing/ Badminton/Tennis (400 to 500)

साईकल सवारी, नृत्य, बॅडमिंटन या टेनिस (400 to 500)

Swimming (550 to 700)

तैरना (550 to 700)

Skipping /Jogging (650 to 700)

डोरी कूदना, दौडना (650-700)

Burn 3500 calories to loose 500 grams of body weight.

3500 कॅलरी खर्च होने पर 500 ग्रॅम वजन कम होता है।

Secondary prevention

सेकंडरी रोकथाम:

Is your fasting blood sugar >126mg% or Post meal >200mg%?

क्या आपका खाली पेट में ब्लड शुगर १२६ मि.ग्रॅ. और खाने के बाद का ब्लड शुगर २०० मि.ग्रॅ. है?

Do you have the following symptoms? क्या आपमें ए लक्षण हैं?

If YES, you may be having frank Diabetes mellitus. Once diagnosed, diabetes cannot be cured, but can be, kept under check. Therefore, do not fall prey to people offering magical cures.

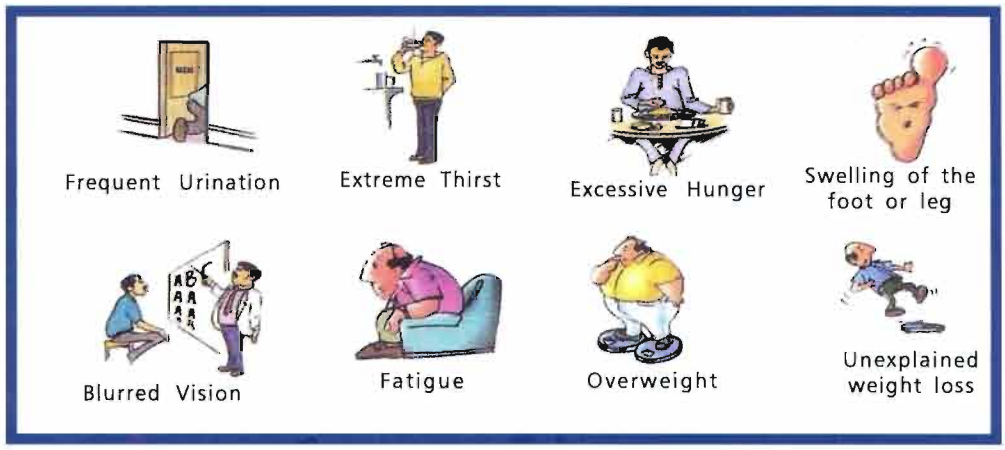
अगर हा, तो आप डायबिटीस से पीडित होंगे। डायबिटीस होने के बाद इसे हटा नही सकता है, मगर कंट्रोल किया जा सकता है, इसलिए किसी की झूटी बेहकावे में मत आइए।

Diabetes treatment includes proper diet, regular exercise, regular monitoring and medication; oral drugs or insulin replacement.

डायबिटीस का इलाज सही आहार, नियमित व्यायाम, खानेवाली दवाइयां या इन्सुलिन से किया जाता है।

Your Doctor knows the best treatment as it depends on the type of diabetes, your condition, age, weight and associated problems.

आपके डॉक्टर डायबिटीस के प्रकार वय, वजन, असोसिएट प्रॉब्लेम इत्यादि को मन में रखते हुए आपका सही इलाज करेंगे।



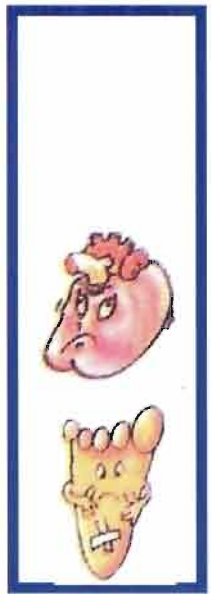
Diabetes is a serious disorder if unmanaged.

यदि डायबिटीस का कंट्रोल सही समय पर सही तरीके से नही किया जाता तो यह भयंकर रूप दिखा सकता है।

Uncontrolled diabetes may result in

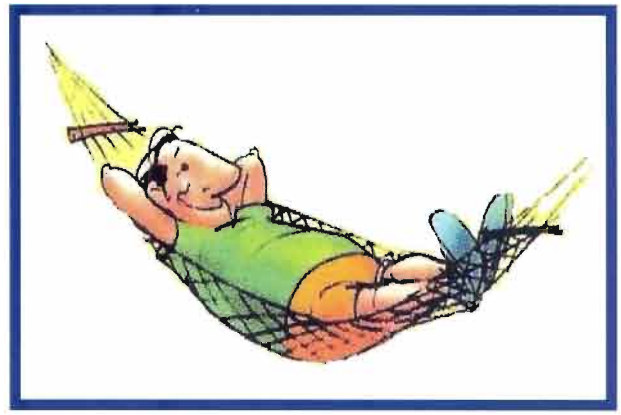
डायबिटीस का सही इलाज या कंट्रोल न करने का परिणामः

1. Loss/blurring of vision
   मंद दृष्टि/दृष्टि हीनता
2. Damage to kidney
   किडनी पर असर
3. Heart Attack
   हृदय की बिमारी
4. Gangrene
   गांग्रीन
5. Foot problems
   पैरों की बहुत प्रकार की तकलीफें
6. Increased risk of brain damage
   दिमाग पर असर



Early control of diabetes may help in preventing the complications and help you live a long, happy, and normal life

सही समय पर जल्द से जल्द सही तरीके से डायबिटीस का इलाज करने पर आप इसके घातक परिणामों को रोक सकते है और लंबी और सुखमय जिंदगी जी सकते हैं।



Yoga - For Better Health

Dr Anuradha Chakrabarti
Medical Officer Incharge, Anushakti Nagar (East) Dispensary

People are drawn to Yoga to keep their body fit and supple or to seek relief from ailments or for spiritual upliftment. Whatever may be the reason Yoga helps all.

Yoga means to UNITE. To bring mind, body and breath together. Hatha Yoga or Yoga using movement or physical activities emphasizes on co-ordination, synchronization and union of our breath with the physical movements.

Breath is the tool that the Yogis worked with to control the mind. We can appreciate the fact that we cannot control any other bodily function other than breath. The way we breathe is a reflection of the state of our mind.

The Astang Yoga describes eight limbs of the Yogic Philosophy. It describes a way of life.

They are Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyan and Samadhi.

The concept of asanas in Yoga commences with the Pawanamuktasana series. They make the joints supple. They are pre-requisites for flexibility and reduction of tension in the muscles. Anyone can do these asanas.

The specific asanasas produce their effect by exerting mild pressure or stretch in the organ or area concerned. They are to be done slowly, as per capacity, rhythmically and in a controlled manner. The final posture should be steady, without strain and one should be able to remain in that posture with absolute stillness.

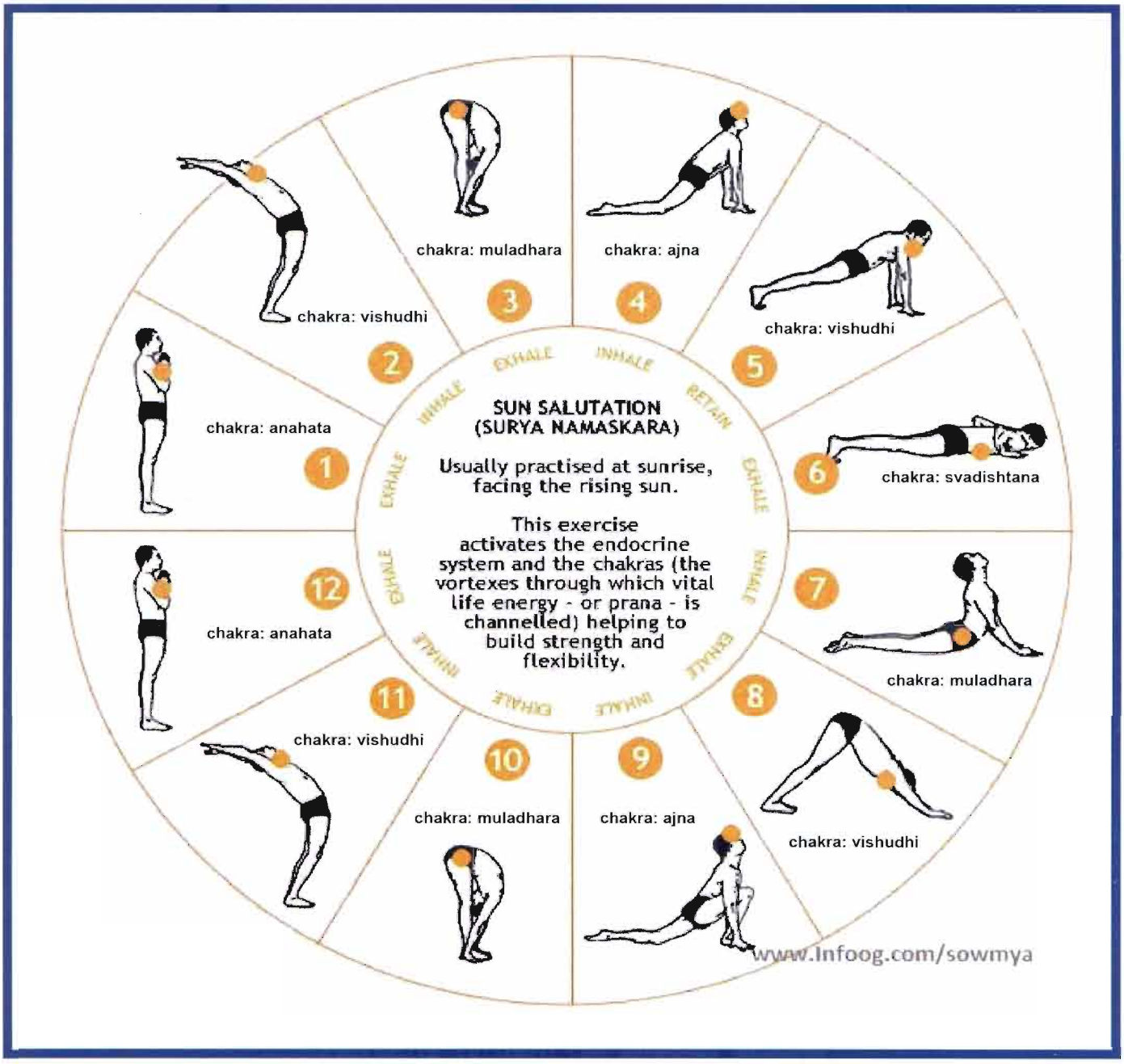
No force or jerky movements are to be done. Forceful, painful and pushing beyond capacity defeats the philosophy of Yoga. And all the while the mind has to be present with the movements. A wandering mind also defeats the purpose of Yoga.

As one begins the practice of Yoga one needs to be aware of the physical posture to which one's body is accustomed to, create flexibility, adjust the internal organs to the posture so that no pain is experienced and concentrate the mind on the asana. These lead to perfect stillness and relaxation. One can thus appreciate the difference between Yoga and other forms of physical exercise. Most of the asanas can be done by a person of average health. It usually starts with an easy (sulabha) posture. All the asanas have an easier version. The following asanas can be done by a person of average health for maintenance.

Sun Salutation or Suryanamaskar is one of the ways towards good health.

It consists of 12 different body postures which are to be performed in a particular sequence. It practically takes care of all the body parts and all the organs of the body. The back stretch, forward bending, inverted postures allow the remote corners of the organs to get a good supply of blood and oxygen. It can be done slowly which will be good for muscle tone and flexibility of joints; and if done at a faster pace, the pulse rate rises making it a good tool for cardiovascular fitness. It should be done under guidance and should not be done beyond capacity.

The Pranayama what is being practiced and taught today is just a stepping stone. Deep abdominal breathing or Yogic breathing is helpful to quieten the mind. In the description of Pranayama, the practices begin with awareness of breath; lengthening of breath and directing the breath to a particular part of the body; the fourth stage is alteration of flow of breath



through both the nostrils. Breath holding should not be done without supervision and guidance.

Asanas are routinely being used for therapeutic purposes.

Asanas recommended for

Diabetes Mellitus

1. Ardhya-matsyendrasana
2. Paschimotanasana
3. Dhanurasana
4. Naukasana
5. Dronasana
6. Parivartita Chakrasana
7. Kapalbhati
8. Savasana

Hypertension and Ischemic Heart disease

1. Suptavirasana
2. Viparita dandasana
3. Setubandhasana
4. Chandra vedana
5. Bhramari

During pregnancy

1. Mandukasana
2. Uttana Bhadrasana
3. Sulabha ekapadasana
4. Sulabha Padangustasana
5. Sulabha Hanumantasana
6. Sulabha Parshwasana
7. Janu skandhasana
8. Anuloma-viloma
9. Chandra vedan

Regular practice of these asanas along with diet control, life style modification (yogic way of life) go a long way in preventing complications and acting as adjuvant to help to reduce the dose of medicines.

Additional Reading

1. Yoga for health and peace, Mr. Sadashiv P. Nimbalkar.
2. Pranayama, An effective means to mental health, Mr. Sadashiv P. Nimbalkar.

Hospital Annual Day 2015 Inauguration Dr. Amrita Misri, Head Medical Division lighting the lamp

Address by Guest of Honour: Shri. Rajnish Prakash Chief Executive, Heavy Water Board

BARC HOSPITAL ANNUAL DAY - 2015

SCIENTIFIC SESSION

Lecture by Guest Speaker, Dr. Rakesh Sinha

Felicitation of Guest Speaker Dr. Aashish Contractor by Dr. K. Mazumdar, Convener, Annual Day 2015

Clinical Meetings Held At BARC Hospital In The Year 2014

Date	Department	Topic
24-1-2014	Orthopedics	Hand in Orthopedics
31-1-2014	Medical	Meditation Workshop by Art of Living
14-2-2014	Dispensary	Fatty Liver
28-2-14	Obstetrics & Gynecology	Interesting Cases - On Operation Table
14-3-2014	ENT	Sialendoscopy For Chronic Obstructive Sialendentitis – New Kid On The Block
28-3-2014	Ophthalmology	Strabismus (Squint)
11-4-2014	Surgical	Wounds, Dressings & Advanced Wound Management
25-4-2014	Medical	Bradyarrhythmias
9-5-2014	Pediatrics	Management of Childhood Asthma
23-5-2014	Psychiatry	Signs & Symptoms in Schizophrenia
13-6-2014	Radiology	Mammographic Evaluation of Breast Density
27-6-2014	Dispensary	Pulmonary Embolism
11-7-2014	Anesthesia	Patient Positioning in Operating Room
25-7-2014	Pathology	Colonoscopic Biopsies – Histopathological Study
22-8-2014	Orthopedics	Osteoporosis
12-9-2014	Medical	Cholera and Ebola Infection
26-9-2014	Surgical	Deep Vein Thrombosis and Hyperhomocysteinemia – A Case Control Study
28-11-2014	ENT	Hearing Impairment – Medical & Related Conditions
12-12-2014	Ophthalmology	Eye Donation

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