

D I A B E T E S **&** **ITS MANAGEMENT**

(Health Through Yoga)



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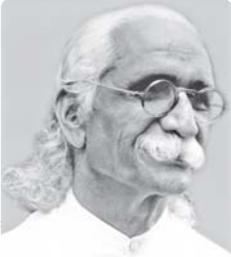
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Science and Yoga

In our Indian efforts to scientifically investigate the field of Yoga, science is looking not only at the human being but also at its mind and spirit and is trying to develop a perfectly integrated personality, not only for an individual but for the whole of mankind.

Swami Kavalayananda

Yoga Mimamsa (VII.3, 150.1958)

SHANTI PATH THE PEACE INVOCATION

ॐ सह नाववतु । सह नौ भुनक्तु । सह वीर्यं करवावहै ।
तेजस्विनावधीतमस्तु । मा विद्विषावहै ।
ॐ शान्तिः शान्तिः शान्तिः

Om Saha Naavavatu.: Om. May God protect us together.

Saha Nau Bhunaktu. : May He accept and nourish us together.

Saha Veeryam Karavaavahai. : May we work together with great Vigour.

Tejaswinaavadheetamastu.: Let our learning shine brightly.

(Without ever becoming dull through our absent-mindedness)

Maa Vidvishaavahai: Let there be no discord amongst us.

Om Peace. Peace. Peace.

हे परमात्मन् । आप हम गुरु शिष्य दोनों का साथ साथ सब प्रकार से रक्षा करें ।
हम दोनों का आप साथ साथ समुचित रूप से पालन पोषण करें ।
हम दोनों साथ ही साथ सब प्रकार से बल प्राप्त करें ।
हम दोनों की अध्ययन की हुई विद्या तेजपूर्ण हो । कहीं किसी से हम विद्या
में परास्त न हों ।
हम दोनों जीवनभर परस्पर स्नेह सूत्र में बँधे रहें । हमारे अन्दर परस्पर
कभी द्वेष न हो ।

हे परमात्मन् । तीनों तापों (आदिदैविक, आदिभौतिक, आध्यात्मिक) की निवृत्ति हो ।
(मंत्र के अन्त में जो तीन बार शान्तिः शान्तिः शान्तिः का उच्चारण है,
उसका अर्थ तीनों प्रकार के तापों से बाहर अथवा उनसे ऊपर आने की
प्रार्थना है ।)

This Mantra which occurs in Katha and Shvetashvatara Upanishads, emphasizes the importance of fruitful relationship between the teacher and the students.

(The feeling of togetherness and the unity of purpose enhances the efficacy of their efforts in the pursuit of spiritual knowledge. The desire for having this relationship free of any discord arises from the deep humility and the unbounded love felt in His presence - the presence of divine energy within one's own self.)

Please note:

The invocation of peace three times, at the end of Mantra refers to the desire of overcoming the misery from three sources:

- A) Adhidaivika : Pertaining to higher forces or destiny.
 B) Adhibhautika : Pertaining to the material world surrounding oneself.
 C) Adhyatmika : Pertaining to the internal world, the operative field of the self or the individualized consciousness.

Quite often, Om Shaantih, Shaantih, Shaantih is recited independently also at the end of the session involving spiritual practices.

**ॐ भद्रं कर्णेभिः शृणुयाम देवा भद्रं पश्येमाक्षभिर्यजत्राः ।
 स्थिरैरङ्गोस्तुष्टुवांसस्तनूभिः व्यशेम देवहितं यदायु ॥**

Om O God may we, who are engaged in the pursuit of spiritual knowledge, hear only the auspicious with our ears and see only the auspicious with our eyes. Praying with steady limbs and body, may we enjoy whatever life has given us by God, in His service.

गुरु के यहाँ अध्ययन करने वाले शिष्य अपने गुरु सहपाठी तथा मानवमात्र का कल्याण चिन्तन करते हुये देवताओं से प्रार्थना करते है कि -

हे देवगण । हम अपने कानों से सदा शुभ कल्याणकारी वचन ही सुने । निन्दा चुगली, गाली या दूसरी पाप की बातें हमारे कानों में न पड़े और हमारा अपना जीवन यजन परायण हो । हम सदा ईश्वर की आराधना में ही लगे रहें । न केवल कानों से सुनें बल्कि नेत्रों से भी सदा कल्याण का ही दर्शन करें । किसी अमङ्गकारी अथवा पतन की ओर ले जाने वाले दृश्यों की ओर हमारी दृष्टि का आकर्षण कभी न हो । हमारे शरीर के एक अवयव सुदृढ़ एवं सुपुष्ट हो । वह भी इसलिए कि हम उनके द्वारा ईश्वर का स्तवन आराधना करते रहें । हमारी आयु भोग विलास या प्रमाद में न बीते । हमें ऐसी आयु मिले जो ईश्वर के कार्य में काम आ सकें ।

**ॐ असतो मा सद्गमय ।
 तमसो मा ज्योतिर्गमय ।
 मृत्योर्मा मृतं गमय ॥**

Om Asato Maa Sadgamaya :

From the unreal lead me to the Real.

Tamaso Maa Joytirgamaya :

From darkness lead me to Light.

Mrutyormaamrutam Gamaya :

From death lead me to Immortality.

इस प्रार्थना के द्वारा साधक प्रार्थना करता है कि हे परमात्मन मुझे असत् से सत् की ओर अन्धकार से प्रकाश की ओर मृत्यु से अमृत की ओर ले जाओ । अर्थात् मृत्यु जो कि असत् है इस अकत् मृत्यु से सत् जो कि अमृत है मृत्यु ही अन्धकार है, इस अन्धकार से प्रकाश जो कि अमृत ज्योति है और जो मृत्यु है जो असत् है उससे अमृत की ओर ले जाओ । अर्थात् हे परमात्मन् मुझे अमर कर दो ।

ॐ पूर्णमदः पूर्णमिदं पूर्णात् पूर्णमुदच्यते ।

पूर्णस्य पूर्णमादाय पूर्णमेवावशिष्यते ।

Om. All that is invisible is verily the infinite Brahman.

All that is visible is also the infinite Brahman.

The whole universe has come out of the infinite Brahman, and whatever is left is still that infinite Brahman.

वह सच्चिदानन्द परब्रह्म पुरुषोत्तम सब प्रकार से सदा सर्वदा परिपूर्ण है । यह जगत् भी उस परब्रह्मसे ही पूर्ण है । क्योंकि यह पूर्ण उस पूर्ण पुरुषोत्तमसे ही उत्पन्न हुआ है । इस प्रकार परब्रह्मकी पूर्णता से जगत् पूर्ण है इस लिये भी वह परिपूर्ण है । उस ब्रह्म में से पूर्ण को निकाल लेने पर भी वह पूर्ण ही बचा रहता है ।

ॐ शान्तिः शान्तिः शान्तिः ।



YOGA AS A SCIENCE OF HEALTH AND HEALING

When you are suffering from any problem like Backache, High Blood Pressure, Diabetes etc., you would find the approach offered by Yoga as very useful and very appropriate for the management of your problem. In some of you, it would serve as a complementary approach to the conventional medical treatment which you might be undergoing. In some others, where the conventional approach does not give the desired relief, it may even serve as the alternative approach.

It is useful where one is seeking the cure or control of his/her problem. It is extremely useful during the period of convalescence and recovery and for rehabilitation. But more than this, it is really useful in preventing the continuation and recurrence of the problem in future.

Yoga is a product of the perennial wisdom of India. One can trace the origin of Yoga back to the period of Indus Valley civilization i.e. atleast three thousand years before Christ. All through the last five thousand years, it has remained as one of the most important facets of the Indian Culture, remaining vibrant and responsive to the changing times all through this period.

As it came to be developed in India, it came to be associated with the development of Hinduism and its philosophy. But in its essence, it has always remained separate from any religious doctrines or dogmas and never demanded acceptance of any specific belief system. It has always remained as a pathway open for all the people professing different faiths, belonging to different religions and different races. In essence it is a path of spiritual inquiry, awakened by the earnest desire for having a deeper understanding of life and the entire phenomena associated with it.

The literal meaning of the word, 'Yoga', in Sanskrit is INTEGRATION. In this sense, Yoga represents a process through which one can learn how to live in the most integrated way. It involves, therefore, the process of identification and then elimination of all that would contribute in disintegration. When taken in this sense it becomes a continuous process, requiring constant vigilance and involving all the aspects of life.

In this integrated way of living, the process of identification of all the elements causing ill-health and the use of appropriate techniques to neutralize their ill effects become one of the primary concerns of Yoga. Thus, Yoga, that essentially is a science of personal growth for spiritual experiences, has simultaneously become a science of Health and Healing.

Three Components of Yogic Approach

When Yoga is used as a Science of Health and Healing, all its techniques and methods which are basically meant for spiritual experiences, automatically get geared to do their job for the promotion of Health and for bringing the Healing touch to the body and mind suffering from ill-health. For this purpose, the approach that Yoga advocates has three main components:

- (A) **First is the PRACTICAL DISCIPLINE that involves the practices of Asanas, Pranayama and Meditation.**

Asanas involve the increased awareness of various physical and physiological processes influenced by controlled stretching, contraction and relaxation of various muscles, their co-ordination in balancing and during maintenance of posture, etc.

Pranayama practice similarly involves the manipulation of breathing mechanism alongwith the increased awareness of the pressure changes inside the cavities of chest and abdomen.

Dhyana or the meditational practice increases the awareness of one's own mental processes including the thoughts, emotions, memory, etc. It can make one aware of how the constant restlessness at the level of mind contributes in the feeling of emotional stress, feeling of constant fear and insecurity. This increased awareness combined with the manipulative techniques of Dhyana practices, gradually restore the psycho-physiological functions back to its healthy, harmonious and balanced state.

- (B) **The second component concerns with the regulation of Diet as well as the regulation of Daily Habits involving the pattern of sleep, recreational activities and working habits.** This helps in

removing all those irritants that are responsible for the imbalance in the functioning of body-mind complex.

- (C) **Third component concerns itself with changes in one's attitudes, behaviour and life-style which would help in inducing the feeling of sharing, feeling of warmth in friendship as well as concern, love and respect for the whole beautiful world.** This acts as an antidote for the feeling of hopelessness, helplessness and loneliness that may come in the absence of proper relationship with the world around.

Many times when people talk about Yoga : योग they focus their attention only on the first component involving varieties of Asanas, Pranayama and Meditational techniques. Thus, they confine Yoga to a small period of their daily life, as if the rest of the day has nothing to do with Yoga.

But really speaking, Yogic way of living in the rest of the day is not only equally but more important from the healing point of view. Whatever skills one has learnt from the Yogic practices need to be used throughout the day. In this sense the UPAYOGA उपयोग i.e. the use of the Yogic skills throughout the day needs to be given proper attention. The last two components attend to this Upayoga aspect of Yoga.

If you undertake Yoga in this spirit keeping this broad framework in mind and comply with all the instructions given to you, you would find that Yoga gives you not only relief from your problems but opens up new ways of enjoying your life.



SOME IMPORTANT CONSIDERATIONS IN THE PRACTICAL PROGRAMME OF YOGA

For getting maximum benefit from the practical program of yoga, you should remember following things:

1. Some of the yogic practices are common to all and can be done by all irrespective of the cause or the nature of their problems. For example, the technique of Inner Awareness, Relaxation, Regulated breathing and Meditation can be practiced by all without any risk of aggravating their problem.

But certain other practices involving the upside-down position of the body, or those which increase the intrathoracic or intra-abdominal pressures or those involving extremes of movements of spinal column may not be helpful for the patients having disorders related to cardiac Lungs and spines.

Therefore **consultation with the specialist who combines medical knowledge with the knowledge of Yoga is very much essential to chalk out the specific yogic programme for the patients suffering from some significant organic disorders and dysfunctions.**

Sometimes this programme needs to be altered in the light of response from the patient which should be constantly monitored by such experts. This way the whole approach of YOGA THERAPY becomes quite SAFE and APPROPRIATE to the patient's need.

2. You should not expect any miraculous results immediately from these practices. As it involves the correction of wrong habits or misuse established over a long period of time, it would similarly take a long time before you could feel the good effects of these practices. It is therefore, necessary that you should practice Yoga DAILY, REGULARLY AND FOR SUFFICIENTLY LONG TIME WITHOUT LOSING PATIENCE.
3. Each day you should keep some time set aside for the practices of these techniques. More than how many different varieties of practices you do, how you do it and how regularly you do, would have a more important bearing on the results you achieve.

4. Apart from Yoga you should give sufficient attention to Upyoga. The increased awareness of how the BODY-BREATH-BRAIN activity is being carried out which results from the correct performance of yogic practices, should be constantly applied in daily routine activities throughout the day. You should see that your POSTURE while working as well as during leisure activities remains appropriate to the task; your movements are carried out in a non-hasty, unhurried and relaxed manner; your BREATHING is free and efficient; your mind is able to work in the present without getting repeatedly lost in the reflection about the past events or getting absorbed in the projection of the future events. Thus, you should become more mindful about the task on hand; the only way to become more efficient and effective in all our actions of the body, the speech and the mind as per the definition of Yoga in Bhagvadgeeta : **योगः कर्मसु कौशल्यम् ।**
5. You should not forget to give proper attention to your food : Its Quality, Quantity and Regularity, as well as the way in which you eat it.
- Always remember
- a. You become, what you eat. If you eat in a healthy way, you would remain healthy. **यअज्ञाद् जायते मनः ।**
 - b. In addition to the food, immoderate intake of alcoholic beverages and the use of Tobacco in the form of smoking or chewing, also need to be handled properly.
6. Proper attention to Sleep-Recreation-Leisure is equally important. There should be a proper balance between your Work Time and Rest Time. This ensures that the body and mind both remain fresh, regain strength and stamina and do not lead to the feeling of being overburdened, while carrying out daily routine activity.
7. Ultimately, it is very important for you to remember all the time that though you are ALONE you should never feel LONELY. The

whole of humanity belongs to you. Your life-style should get infused with the feeling of sharing, caring and love for the whole humanity and the world at large. You should not create walls around you, confining yourself to your exclusive, petty existence. This would reduce the burden of feeling lonely from your heart and would make you feel instead, more upright and cheerful to face life in the company of all those with whom you come in contact.

Please Note : Bhagvadgeeta says : (Ch, VI, 16 & 17)

नात्यश्नतस्तु योगीऽस्ति न चौकान्तमनश्नतः ।
 न चातिस्वप्नशीलस्य जागतो नैव चार्जुन ।
 युक्तस्वनावबोधस्य युक्तचेष्टस्य कर्मसु
 युक्तस्वनावबोधस्य योगो भवति दुःखहा

Yoga is not meant for the one who eats too much or who does not eat at all; nor for him who sleeps too much or keeps awake in excess.

Yoga is meant for the one, who is moderate in eating and recreation, moderate in his efforts in work, moderate in sleep and wakefulness; his practice of Yoga becomes the destroyer of all misery.

RULES TO BE OBSERVED DURING THE PRACTICE OF ASANAS, PRANAYAMA AND MEDITATIVE TECHNIQUE

1. All your movements in Asanas should be comfortably slow and well controlled at every stage. You should avoid sudden, jerky and hasty movements.
2. The final position in any Asana should be such that it can be maintained for sometime without any feeling of discomfort. Your motto should be "Maximum to your capacity but within your limits". Day by day your capacity will increase, but let it happen naturally and never force yourself to go beyond your present limits.
3. While moving or during maintenance of final position, learn to use your body parts selectively. Allow only those muscles to work

which are required in particular movement or for the maintenance of particular pose, but keep the rest of the body completely RELAXED.

4. Breathe normally all through the practice of each Asana. Avoid holding the breath at any stage of the practice as it may increase the tension in the body. While maintaining the final position it is better to breathe 5 to 10 times deeply and slowly. When any particular movement is to be done alongwith the process of inhalation or exhalation, you would be specifically told so.
5. During the practice of Asanas keep your eyes closed which would help you to keep your attention focused on the correctness of the technique, on free flow of breathing, on proper relaxation of the non-required parts of the muscle groups and on the overall feeling of pleasure generated by the activities going on in the inner body-space.
6. While practicing Pranayama, remember that it concerns not only with breath alone but also with the mind. Awareness of spontaneous breathing (PRANADHARANA), regulating the breathing pattern to deep and slow abdominal breathing and using it from time to time for healing, i.e. cleansing the body parts of all the unwanted, unpleasant and hurtful sensations during exhalation and filling it with relaxing, healing, life-giving energy during inhalation (PRANAYAMA) and the techniques of Anuloma - Viloma and other Pranayamas, all require full mental participation.
7. In Meditative practices, whatever techniques are used, the effect that is expected is the same. It is HOME COMING. The wandering mind becomes quiet and silent. It releases the energy which otherwise was getting used for this wandering and for emotional upsets arising out of it. This gives rise to the feeling of tremendous boost to the creative energy of the mind. But do expect the results to vary from day to day and never get easily disheartened when the results are not encouraging. Never lose patience but keep on trying. Under the spell of old habit your mind would wander away again and again, but your job would be to come back to the center or 'home' again and again without loosing heart till the old habit gets weakened and fades away.

PS. 'Home' means body.

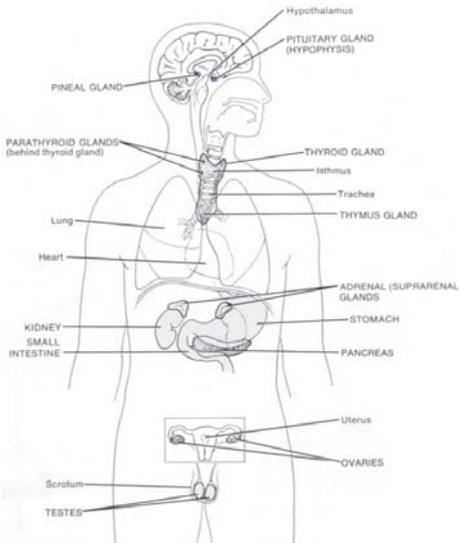
SOME GENERAL USEFUL HINTS

1. The best time to practice Yoga is early morning before breakfast.
2. Dress during the practice should be minimum, lose-fitting and light so as to allow free movements of the limbs in all directions with no constriction around neck, abdomen, waist or wrists.
3. Remove spectacles and wrist watch during the practice.
4. Before beginning the Yoga Session it is better to empty the urinary bladder.
5. It is better to have a light stomach during the practice. Do not practice Yoga within three hours after heavy meals, within two hours after breakfast and within half an hour after some liquid intake. Wait for 15-20 min. after Yoga before taking food.
6. During menstrual period in women, it is better to suspend some Asanas which would increase pressure over the pelvic area. But one can continue with practices of relaxation, simple breathing, gentle stretching and meditation.
7. Keep atleast half an hour gap between Yoga and other types of exercises like walking, swimming etc.



INTRODUCTION OF DIABETES

Diabetes is a disease which man has suffered from time immemorial. However, the toll Diabetes is taking today on man is higher than ever in the past especially in the developed places in the world. The reason for this is not mysterious. Technological advancement has resulted in affluence accompanied by stress and has also promoted a sedentary life style lacking in physical exertion accompanied by over eating and wrong eating habits. The end result is malfunctioning of the physiological systems giving rise to various diseases. Diabetes being the most common among them.



What is Diabetes?

When the term 'Diabetes' is used alone, it usually refers to **Diabetes Mellitus (DM)**. This is a chronic syndrome of impaired carbohydrate, protein and fat metabolism owing to insufficient secretion of the hormone, Insulin. **DM is characterized by a high blood sugar level and the subsequent excretion of sugar in the urine.**

How does DM happen?

Carbohydrates in our food contain sugar, which enters the blood from the intestines mainly in the form of glucose. (This sugar provides energy for the human body to maintain the organs and tissues). Insulin is then released from the Pancreas in order to help the assimilation of glucose into the skeletal muscles, fat cells and Liver. When the quantity and quality of Insulin produced by the Pancreas are inadequate there is a rise in the blood sugar level, giving rise to DM.

Thus, DM is a chronic imbalance in the mechanism regulating the blood sugar level. Due to this, the glucose (sugar) in the blood is prevented from being used in the muscles and tissues or stored as

Glycogen in the Liver. The regulation of sugar by the body is a complex process requiring sensitive and precise interaction of the Pancreas, the Pituitary gland, muscles, Liver, blood stream, Adrenal and Thyroid glands, skin, Kidneys and Nervous System. Thus, Diabetes is a very complex disease.

Hyperglycemia refers to an increased blood sugar / glucose level. The characteristic symptoms of this condition are excessive thirst and hunger, excessive urination, dehydration, tiredness, loss of weight, itching around the vulva or penis, increasing shortsightedness, loss of sensation of pain in the limbs, impotence, etc. In severe cases, fats are used as energy sources instead of sugar giving rise to keto-acidosis, which may lead to diabetic coma or unconsciousness. Artificial intake of insulin helps in mobilizing glucose into the body cells and control hypoglycemia.

Hypoglycemia is a condition, which occurs when blood sugar levels drop down due to too much artificial Insulin intake or prolonged fasting or exercises. The characteristic symptoms are weakness, hunger, sweating, palpitations, tremors, dizziness, confusion, unsteadiness, mental confusion, slurring of speech, staggering, urge to sleep, and finally coma. To control hypoglycemia, one has to eat pure glucose like small sweets.

CLASSIFICATION OR TYPES OF DIABETES

Type 1 or Absolute (juvenile-onset) Diabetes

In this condition, for various reasons, the pancreas stops producing Insulin completely. This prevents glucose from entering the body cells with the result that they starve. This starving further affects the pancreatic cells compounding the problem and creating a vicious circle. This occurs mostly in young persons, and is a case of “Water, water everywhere, but not a drop to drink!” This type of diabetes can rarely be cured.

Type 2 or Relative (mature-onset) Diabetes

In this type, there is inappropriate secretion of insulin and / or the body tissues have become less responsive to Insulin. Blood sugar thus rises. Generally, this type of diabetes affects middle-aged persons in a gradual manner being caused by factors like heredity, old age, obesity, infection and stress. It is believed that this type of

diabetes can be controlled or even prevented with due care.

Causes of Diabetes

The most common causes of diabetes are as follows:

- Heredity
- Obesity
- Mental and emotional stress and strain
- Prolonged anxiety and conflict
- Sedentary life style
- Lack of Physical Exercises
- Wrong Food habits

Symptoms of Diabetes

The general and main symptoms of Diabetes are as follows:

- Hypoglycaemia
- Glycosuria (appearance of sugar in urine)
- Polyuria (excessive urination)
- Excessive hunger and thirst
- Itching especially of the genitals
- Weakness and debility
- Sweating
- Loss of weight

In severe cases of Diabetes the person may suffer from

- Nausea, headache and vomiting
- Eye disorders
- Tremors, dizziness and staggering
- Acidosis due to excessive production of ketone bodies in the most advanced stage
- Diabetic coma or unconsciousness

Health Problems due to Diabetes

In course of time, the uncontrolled sugar levels will

- Damage the eyes and kidneys
- Damage caused to nerves may lead to foot sores, impotence and digestion problems
- Damage to blood vessels may lead to Heart attack and Brain stroke

These problems can be prevented or delayed by proper care and treatment.

Normal Blood Sugar Level

Normal fasting blood sugar level ranges between 80 to 120 mg. per 100 ml. of blood. Anything beyond 120 indicates presence of Diabetic condition. In case of a Diabetic person, it is essential to talk to the doctor about the range of blood sugar level that is manageable or best in each person's case.

Treatment of Diabetes

The key in treatment of Diabetes is to ensure that the blood sugar level is within or as close to the normal range as possible (to prevent conditions of hyper or hypo glycaemia). This can be done by eating right i.e., developing correct food habits, by regular exercising and by Insulin if the doctor so prescribes. It is essential to check the blood sugar levels periodically and regularly. This enables one to see the effect of food, exercise and medicines (including Insulin) and make changes in the treatment, if necessary.

How to check the Blood Sugar Level?

These days several ready to use and user-friendly gadgets are available to check the blood sugar level. By pricking the finger a drop of blood can be removed and placed on a test strip. The strip changes colour and the changed colour tells the extent of sugar in the blood. The strip needs to be inserted in a blood sugar meter or the colour compared to a colour chart to figure out the blood sugar level.

Tips on Blood Sugar Testing

- Wash and dry hands before doing the testing
- Pay attention to expiry dates of the test strips
- Use a big enough drop of blood
- Ensure that the Meter is cleaned
- Check batteries of the Meter
- Follow instructions carefully
- Tabulate results and show the doctor

Glycosylated Haemoglobin Test

This test is performed by the doctor to measure the common type of Haemoglobin. The level of Haemoglobin indicates how well the

blood sugar content has been controlled in the last 1 to 3 months. This enables focus on the efficacy of treatment and changes therein, if necessary.

How often should Blood Sugar Level be checked?

Blood sugar level should be checked as often as advised by the doctor. The testing needs to be done more often in the initial stages or when ill or stressed out or pregnant or in case medicines have been changed. Regular checking is essential in cases of Insulin therapy. This enables focus on the efficacy of treatment and changes therein, if necessary.

Food and Diabetes

Every time a person eats, he puts sugar into his blood stream. Hence, eating the right way can help in controlling blood sugar level. It is important to learn the effects of food on the blood sugar level. Following a healthy diet is always wise. The dietician may be able to prescribe the proper diet.

Tips on Correct Eating

- Try to eat at the same time everyday. This helps in keeping the Insulin and sugar levels steady.
- Try to eat 3 times a day. A snack can be had at bedtime if medicine or insulin has to be taken. Avoid snacks at other time unless you are physically exerting or treating hypoglycaemia.
- Lose weight if over-weight. Even a slight reduction in weight lowers the blood sugar levels.
- Eat plenty of fibrous foods, which help you feel full. Green leafy vegetables, grains and fruit are good choices.
- Eat fewer “empty” calories such as food high in sugar and fats.

Smoking and Alcohol consumption

Smoking should be stopped as soon as possible. If alcohol is taken on empty stomach, there is a risk of dropping the blood sugar level.

Exercise and Blood Sugar Level

- Exercising helps in better utilization of Insulin resulting in a lower blood sugar level.

- Exercising is good for the Heart, cholesterol levels, blood pressure and weight - all factors that can affect risk of heart attack and stroke.
- Exercising reduces anxiety by making feel good.
- It is essential to talk to the doctor before embarking upon a programme of exercises. The best exercise plan is one which is easy to implement on a regular basis. Due to lack of open outdoor space and time constraints in urban areas, it is advisable to have an indoor plan of exercise.

Diet and Diabetes

What a diabetic should eat and what he should avoid is personal and depends on the nature of the person. However practically speaking certain foods are found to be beneficial for diabetics. It is not always easy to follow a strict regimen of diet and hence dietary prescription should not be too rigid. Any diet prescription should bear in mind the person's culture, the severity of the ailment and any other factors unique to the person concerned.

In the case of Insulin dependent Diabetic patients any variation in the diet can adequately be dealt with by increasing or reducing Insulin intake. However, diet is more important for non-insulin dependent diabetic patient.

General diet prescriptions are as follows:

- A variety of minimally processed foods with lots of fresh nutrients and fibres are best because with high fibre diet it helps in reducing the dosage of Insulin. (Whole grains, Beans and Vegetables).
- Diet should be a low fat one because high fat diets impair carbohydrate (CHO) metabolism increasing the risk of Heart disease.
- A diabetic patient should eat more of complex carbohydrates such as wheat, oatmeal, buckwheat, corn and wholegrain (unrefined) rice.
- Since the advent of Insulin, high CHO diet is permitted.
- Slow absorbing CHOs are preferred to fast absorbing ones like sugar.
- Frequent meals with reduced quantity are better as they prevent a sudden rise in the blood glucose level.

- The Diabetic Association recommends a diet in which 60 to 70 % calories come from carbohydrates, 20 to 30 % from proteins, and 10 to 20 % from fats. Only unsaturated fats (plant and vegetable origin) should be consumed and saturated fats (animal origin) should be avoided.

General diet restrictions are as follows:

- Diabetics should avoid excess amounts of simple sugars (White sugar, honey, glucose, and other forms of sweets).
- Salt intake should be low.
- Alcohol consumption to be moderate, if not avoidable.

Remember to call the doctor immediately if

- One feels very thirsty and is urinating too much.
- One feels sick in your stomach or vomit more than once.
- One feels Breathlessness.
- Breath smells sweet.
- One feels to tremble, weak and drowsy, mentally confused or dizzy or start seeing double.
- One feels movements are unco-ordinated.

DIABETES IN CHILDREN

Heredity seems to play a role in the development of diabetes in a child. Diabetes occurs far more often in the family of a diabetic child than in families of healthy children. Heredity is however not the only cause. Possibility of a viral infection producing Diabetes in children is being studied at present.

Onset of Diabetes in Children

In adults, the onset of Diabetes is often gradual and many a times, adult diabetics are not aware of their disease. In diabetic children, the onset of the disease is usually abrupt. Severe thirst, excessive amount of urine, bed wetting, weight loss and weakness are common features. The child may become drowsy, have nausea and vomiting and lapse into unconsciousness. Diabetes may be detected very late in children.

Management of Diabetes in Children

Diet : - Many middle-aged Diabetics are overweight and their disease can be controlled by a reducing diet. However, a reducing diet is not

suitable for Diabetic children. A Diabetic child needs a diet adequate enough for his growth and physical development. A Diabetic child needs vitamins and minerals as much as a healthy child. Meal times of a Diabetic child should be regular. A Diabetic child should have, apart from a breakfast, lunch and a dinner, a midmorning and a bedtime snack. This becomes necessary in order to avoid a low blood sugar level due to Insulin. A child should be advised to eat at regular and periodical intervals and explained the need of proper diet.

Sometimes a Diabetic child may lose appetite and suffer from nausea. During this period, he can exclude fats and proteins from his diet and take a carbohydrate diet which can be easily digested. He can take biscuits, soft rice, soft part of bread, milk, buttermilk, fruit juice, etc.

A diabetic child may be allowed an occasional sweet if, if he is very fond of rather than be tempted to eat it on the sly.

Exercise:- Exercise helps in control of Diabetes but it should be regular because glucose is used up during the exercise. He should be encouraged to participate in school games, athletics and physical training. Walking, running and skipping are good forms of the exercise.

A diabetic child should not swim or work on a high apparatus alone but before any strenuous exercise should take extra carbohydrates.

Low Blood Sugar Level : - The parents and teachers of a Diabetic child should know the warning signals of low blood sugar level or an Insulin reaction. A low blood sugar level may give rise to change in behaviour of the child. This can be corrected by giving the child some sugar or glucose dissolved in water.

Education: - A Diabetic child should attend the school as any other child. A well-controlled diabetic child has normal intelligence and can have as good a performance in school or college as any other child. Good co-operation from school teachers, parents and doctors is very much essential. A boarding school is not suitable for a Diabetic child.

Emotional Problems : - Development of growth in a Diabetic child creates many emotional problems, not only in the child but also in the parents. He may feel that he is different from his friends. The parents are also often alarmed when the diagnosis of Diabetes is made in their child. They feel guilty or become over protective.

The parents and their child should face the problem squarely. The child should not be allowed to use diabetes as means to escape unpleasant situations like school examinations. Over protection of the child hinders his emotional growth and understanding. The parents should give the child a sense of responsibility with proper treatment and right attitudes so that he can mature normally, physically and mentally.

MANAGEMENT OF DIABETES IN CERTAIN CIRCUMSTANCES

1. Infections : - An infection increases the requirement of Insulin. A diabetic usually treated by tablets or diet may need Insulin temporarily during an infection. During any infection urine should be tested for sugar atleast twice a day. The dose of insulin should be increased if the percentage of sugar in urine has increased. The diabetic should consult his doctor immediately about the infection.

2. Stomach Upset and Vomiting: - A Diabetic may not be able to take his usual diet if he develops an infection, stomach upset and vomiting. Under such circumstances one should take carbohydrate in the form of liquids or soft diet. Fats should be omitted as these may give rise to nausea. He must take plenty of liquids. Insulin is never omitted. Urine should be tested frequently for sugar and he should consult his doctor at the earliest.

3. Pregnancy and Delivery :- Before the discovery of Insulin, the life span of young Diabetics was very short. General health of young Diabetics used to be so poor that they rarely conceived in those days. In case they did, the pregnancy usually ended up in stillbirth of the newborn. **Today, a Diabetic woman can conceive and have a successful delivery.**

A Diabetic woman should report to her doctor, as soon as she has become pregnant. Excellent control of Diabetes is essential during pregnancy. Through out the pregnancy, she must be under constant supervision of her doctors i.e., atleast once a month for the first six months and once in fifteen days, later on.

The delivery is usually carried out about three weeks before the expected date. Some women develop temporary Diabetes during pregnancy but after delivery their blood sugar level becomes normal without any treatment. This is called as Gestational Diabetes.

4. Surgical Operations : - A Diabetic may have to undergo a surgical operation. Uncontrolled Diabetes creates problems in anaesthesia and Surgery. The surgeon always wants Diabetes to be well controlled before, during and after an operation. A Diabetic should always inform his surgeon about his disease. A Diabetic usually is asked to get admitted to the hospital a few days before operation to ensure good control of Diabetes.

5. Diabetic Coma: - Diabetic coma is a very dangerous complication of Diabetes. Prior to the discovery of Insulin, this was a common cause of death amongst Diabetics. Omission of Insulin is the most important cause of Diabetic coma. Any infection like Carbuncle, Abscess, Pneumonia or vomiting, diarrhoea worsens Diabetes and may result in Diabetic coma. The requirement of insulin increases in the presence of infection. The body fat is broken down when Insulin is lacking. The breakdown products of fats, called ketone bodies, accumulate in the blood and later appears in urine when Diabetes is severe. This poisoning by ketone bodies ultimately leads to Diabetic coma.

Diabetic coma develops gradually. Before actual coma or unconsciousness develops, the Diabetic loses appetite, gets nausea, vomiting and abdominal pain. The tongue becomes dry, face flushed, breathing deep and pulse rapid and feeble. The patient becomes drowsy and lapses into coma.

The Diabetic should take rest in bed and take plenty of fluids if he develops any infection. Insulin should never be omitted. Urine should be examined every four hours for sugar. The dose of insulin should be increased if urine contains large amounts of sugar. He should report to the doctor immediately.

Yogic Treatment for Diabetes

Modern medicine holds no positive system of cure for Diabetes Mellitus. It can at the most, only control the symptoms through diet and drugs. The disease itself remains unaffected. However, the science of Yoga has a more successful method of managing Diabetes by the internal readjustment of the physical organism through the systematic stimulation of the body's own regenerative process.

Yogic practices are useful in treating Diabetes because they have powerful effects bringing about subtle changes in the body and mind thereby strengthening both. The yogic practices need to be appropriately chosen and properly practiced.

Before embarking upon a programme of Yogic treatment, it is essential for the Diabetic person to have a favourable attitude towards the yogic treatment. One should make restoring his health as the central and most important priority of his life. Alongwith harbouring a strong wish to be cured. One should be fully convinced of the efficacy of yogic treatment.

Yogic treatment is a process spreading over a prolonged period of time. One cannot expect results overnight. In fact, trying to overdo the practices for attaining quick results will do much damage. A certain amount of time needs to be set aside each day (preferably in the mornings) for the recommended practices. This fixed time should be considered as inviolate.

During the practice one should be completely in the “now”, with full awareness focused in the present moment. Gradually, old memories and disturbing volitions will surface and get exhausted. The positive attitude towards the cure of the disease will transform the entire life. The patient will soon come to view situations as learning experiences rather than annoyances.

Yogic treatment for Diabetes should be tailor-made for each patient and supervised by a qualified Yoga teacher. The treatment is an involved and technical process. The practices need to be learnt correctly and practiced in a relaxed manner.

Since, Diabetes is almost always accompanied by other complications like Heart ailments, high blood pressure, etc. care should be taken of these complications while performing the yogic practices.



TREATMENT OF DIABETES THROUGH YOGIC PROGRAMME

1. THE GENERAL APPROACH

- (A) The Yogic programme consists mainly of four components : Shatkriyas or Shodhana Kriyas, Asanas, Pranayama and Dhyana practices.
- (B) The element of SAFETY while performing any of these practices could be ensured by adopting three major guidelines given in the scriptures. They are:
- a) YATHA-SHAKTI - One should perform to one's maximum capacity put as per one's limits. No undue force or strain should be used while performing. There should not be any competition with others who may have different capacities and limitations. One should make the best use of what is possible for oneself and should not waste any energy feeling unhappy about what is not possible at the moment.
 - b) SHANAIHI SHANAIHI - One should progress gradually stage by stage. There should not be any compulsion to reach any stage, rather one should allow it to develop gradually. The continuous and persistent efforts would pay in long run. The slow, steady and sustained change is preferable than any dramatic effect.
 - c) ADHYATMA-CHETAS - During the whole performance one should be fully aware internally. It helps in developing better understanding about one's present capacities, limitations and functional blocks in body-mind complex. Without it, it would not be possible to correct the actions of body-breath-brain when they are going in wrong direction.

2. SHODHANA KRIYAS

There are six group of Yogic practices (Shat Kriyas) which are used specifically to cleanse the internal body / passages and therefore, are called Shodhana Kriyas.

The practices of NETI and DHAUTI are especially important for the patients suffering from Diabetes. It is to be practised under medical supervision.

The practices of NETI KRIYAS include JALANETI or nasal wash with warm saline water and SUTRA NETI or gentle massage of nasal mucus membrane with rubber catheter. It should be followed by the practice of slow Kapalabhati. For the cleaning cleansing the nasal passage Neti Kriyas can be done on empty stomach in the morning or on light stomach in the evening.

The practice of DHAUTI KRIYAS includes VAMANA DHAUTI or drinking hypertonic saline water the purpose of induced vomiting, DANDA DHAUTI or drinking hypertonic saline water and then swallowing the rubber tube to bring out the water through it and VASTRA DHAUTI or swallowing long muslin cloth to stimulate the gastric mucosa. The Dhauti Kriyas should always be done on empty stomach before breakfast in the morning.

The Neti and Dhauti Kriyas should be done daily in the initial period of three to six months and thereafter they should be performed only when necessary. Whenever Neti Kriyas are performed they should be followed by Kapalabhati; otherwise Kaplabhati should be practiced daily alongwith the practice of Pranayama.

JALANETI
जल-नेती



SUTRANETI
सूत्र-नेती



DANDADHAUTI
दंड-धौती



VASTRADHAUTI
वस्त्र-धौती



VAMANDHAUTI
वमन धौती



SHODHANA KRIYAS

I. NETI KRIYAS

a. Jala Neti : - This kriya is performed with slightly warm saline water for cleansing the nasal cavity or the passages. The Water is taken in a kettle like container. Standing with legs slightly apart, bending the shoulders slightly down and looking towards the right side, the beak of the kettle held in the right hand is inserted inside the right nostril. The left hand is bent at the elbow and then placed on the back with palm upwards. The kettle is then tilted so that water is poured inside the right nostril. On adjusting the angle of the head, the water starts coming out of the left nostril as if from an open tap. Breathing is done with the mouth.

The kriya is then performed by pouring water through the left nostril.

After finishing this kriya, it is advisable to do Kapalabhati for clearing the nasal cavities of any residual fluid (water, mucus, etc.) inside.

b. Sutra Neti or Rubber Neti : - This neti kriya is done using a sutra (thread) or, as it is been practised with a narrow rubber tube of approx. 15 inches in length. The rubber tube needs to be thoroughly cleaned and sterilized before use. This process massages the internal cavity/passage of the nostrils.

Either in sitting or standing position, the rubber tube is held with both hands and its closed, narrower end is inserted inside one nostril. Slowly and steadily more and more of the tube is inserted till it reaches the throat at the back of the mouth. The index and middle fingers are then inserted in the mouth, to pull out the tube from the mouth. Now one hand is holding one end of the rubber tube, it passing through the nostril and coming out of the mouth, the other hand holding the other end. Slowly and gently the tube is pulled alternately by one hand at a time, the other hand letting it easy. This process massages the internal cavity/passage of the nostrils. This action is performed about five to six times and then the entire rubber tube is slowly pulled out from the mouth. Then the kriya is performed through the other nostril.

II. Dhauti Kriyas

Dhauti kriyas lead to the cleaning of the digestive tract, the respiratory tract, the bowels, the teeth, the tongue, the sinuses, the ear passages, the elongation of the tongue, etc. Dhauti kriyas are preferably performed in the morning on empty stomach.

a. Vaman Dhauti :- Vaman dhauti is performed on an empty stomach preferably in the morning. Warm saline water is consumed one glass after another in quick succession, as many as possible. Then standing with legs apart and bending slightly forward, the index, middle and ring fingers of one hand are used to tickle the back of the throat to induce vomiting. Efforts have to be made to ensure that the entire water is vomited out. When there is no more water to be vomited, further stimulation will lead to sticky saliva coming out with difficulty. The feeling of lightness is also an indication that entire water has been vomited out. The water that is vomited out brings out with it the excess bile in the stomach as well as the phlegm that was erstwhile blocking the digestive tract.

b. Danda Dhauti :- In this dhauti kriya after drinking warm saline water as in vaman dhauti, a hollow rubber tube about 30 inches long and half a centimeter in diameter is inserted inside the mouth. The tube is carefully passed through the throat inside the gullet. Slowly it is pushed inwards till it reaches the level of water. Bend slightly down from waist. Water from the stomach now starts flowing out of the pipe, which is held with both the hands, as if from a tap. As water flows out, slowly push the tube further inwards so that the flow of the water remains continuous. Empty out the entire water in the stomach. The last part of the water brings along with it the acidic and mucus contents from the stomach and the food pipe. When the water has stopped flowing, slowly pull the rubber tube out of the mouth. Wash it clean in boiling water for next usage.

c. Vastra Dhauti :- In this dhauti kriya, a special kind of soft, almost non-absorbent, cotton cloth about 22 feet in length and 3 inches in width is used. This cloth is kept immersed in tepid water contained in a vessel. Sitting comfortably, take the end of the cloth and fold it into a triangular shape and again fold it so that the end is slightly thicker. Insert this end in at the end of the tongue near the throat.

Now take it into the food pipe. Slowly, slowly take more and more of the cloth into the stomach by simulating the combined action of eating, gulping and swallowing, holding the cloth in both the hands and unrolling it from the vessel. Continue taking in till only 6 to 8 inches of cloth remains out. Now slowly start pulling the cloth out using both hands one after another so that the cloth, which comes out, starts gathering on the plate kept for the purpose. In this manner the entire cloth is removed out from the stomach. Ten to twelve minutes are sufficient enough to perform this kriya.

P.S. : To be practised under expert supervision only.

3. MOVEMENTS AND ASANAS

Once one becomes used to the feeling of the body space from within through the process of Inner Awareness, one can start with the conscious body movements in different Asanas.

Through the different Asanas one learns about one's own body and how it functions. In a way it is an inner exploration to find out which movements are possible in different joints and body parts. One also learns how to overcome these limitations or blocks in the movements by controlled STRETCHING keeping the rest of the body RELAXED.

In the final position of each Asanas, one should breathe in and out, atleast five to ten times using the 'Friendly Breathing Pattern'. In the distorted body position of different Asanas it may not be easier to breathe in this fashion but effort should be taken. One would then be able to use the Friendly Breathing Pattern in a non-distorted body position throughout the day more easily. One would find that the use of this pattern in final position of different Asanas would bring the benefits in such a way that one would be able to do the movement of abdomen-diaphragm and lower chest more effectively even in normal day to day life.

The following programme is basically an introductory programme and includes very simple practices which could commonly be done by all the participants of the workshop. They are also used to present and develop the concept of how effectively these practices should be performed and how the skill is developed from their continuous, long-term performance could be applied in daily routine activities.

Many more useful practices left out of this workshop with group teaching approach, are expected to be learnt in regular Yoga classes run by Kaivalyadhama under personal supervision with individual attention by the teacher.

MOVEMENTS AND ASANAS :

1) SWASTIKASANA : Sitting with both legs stretched out in front, fold the right leg at the knee so that the right sole touches the inside of the left thigh. Fold the left leg similarly and place the sole of this leg against the right. The toes of both legs are firmly placed between the thigh and calf muscles of the other leg. In this meditative posture place both hands on the knees in chin or Jnana Mudra.

SWASTIKASANA

स्वस्तिकासन



2) SHAVASANA : In a supine lying position, legs are kept around 20 inches apart and arms by the side of the body with palms facing upward and about 6 inches away from the thighs. Fingers are kept half open in relaxed way and eyes are kept closed. The whole body is scanned, part by part for any muscular tension and the same is eliminated. The attention is then focused on the breathing, making it little deep and slow, involving the diaphragmatic and abdominal movements. One continues with the attention on the flow of the breath, feeling the warmth during exhalation and coolness during the inhalation in the nasal air-passage.

SHAVASANA

शवासन



3) ARDHA-HALASANA : In the supine lying position with both legs together and hands by the side of the body, one leg is raised up keeping the knee unbent till it forms a 90 degree angle. At the same time rest of the body including the other leg is kept relaxed. The movement is repeated with the other leg. Subsequently, both legs are raised together in the same way till they form 90 degree angle. While lifting one leg or both the legs together, one can pause at 30 and 60 degree angles.

ARDHA HALASANA

अर्ध हलासन

(One Leg)



(Both Legs)



4) DRONASANA : Lying in supine position, place the palms on the respective thighs. Breathe in and raise the legs as well as the upper part of the body not more than 12 to 18 inches from the ground so that only the buttocks remain in contact with the ground. It is preferable to hold the breath and release the posture while simultaneously exhaling out. Normal breathing can be done in the final posture if one is suffering from cardiac or respiratory ailments.

DRONASAN

द्रोणासन



5) PAVANAMUKTASANA : (a) ARDHA-PAVANAMUKTASANA : In a supine lying position with both legs straight together in a relaxed manner, first bend the left at the knee and bring it near the chest and then with the help of the hands, pull it further near the chest. Thereafter, one may raise the head to make the forehead touch the knee. The same movement is repeated with the other leg.

ARDHA-PAVANAMUKTRASANA

अर्ध पवनमुक्तासन



(b) PURNA-PAVANAMUKTASANA : In a supine lying position with both the legs straight together, in a relaxed manner, one bends both the legs at the knee and brings the knees near the chest and then hugging both the knees with the arms pull them more near the chest. Thereafter, one may raise the head to make the forehead touch the knees.

PURNA-PAVANAMUKTRASANA

पूर्ण पवनमुक्तासन



6) PURNA-HALASANA : In the supine lying position after bringing both the legs upto 90 degrees, legs are allowed to move towards the head keeping the trunk as close to the ground as possible. Then the hips and lower back is lifted up with simultaneous lowering of the legs towards the ground, till the toes touch the ground above the head. The hands, till now in an extended passive position are moved along the ground and are brought above the head to form a finger-lock near the head. The toes are further extended as far away from the head as possible, so the chin presses tightly against the chest to form a chin-lock.

P.S.: To be practised under supervision.

PURNA HALASANA

पूर्ण हलासन



7) VIPARITAKARANI: In a supine lying position, one raises both the legs without bending them at the knees upto 90 degrees. Taking support of the elbows, one raises the buttocks and the lower back allowing the legs to go up. In the final position buttocks are supported by the palms and the trunk assumes gentle J-shaped curve with the area from the navel to the toes in a straight perpendicular line.



VIPARITAKARANI

विपरीतकरणी



8) SARVANGASANA : In a supine lying position, both the legs are raised without bending them in the knees upto 90 degrees angle. Taking support of the arms and elbows, one raises the buttocks and then the lower back allowing the legs to go vertically upward. In the final position the hands would be supporting the trunk from behind near the shoulder-blades and pressing it forward would make the chin get pressed tightly against the chest. The head and neck remain on the ground while the whole body from shoulder up to the feet assumes verticle position. Generally, this asana is immediately followed by the practice of Matsyasana.

SARVANGASANA

सर्वांगासन

9) MATSYASANA : After adopting the posture of Padmasana, one lies down on the back. Then by placing the palms by the side of the head, one raises the trunk to form an arched position of the spine. The neck is then fully bent backward making the top of the head rest on the ground. After securing this position, the hands are then brought forward and making hooks of forefingers, the opposite big toes are held. While arching the back, one should not raise the foot-lock or knees. It should be practiced immediately after Sarvangasana as it is a complementary posture.

MATSYASANA

मत्स्यासन



10) SETUBANDHASANA: Lying in supine position the feet close to each other and hands by the side of the body palms the ground. Fold both legs at the knees, heels coming as close to the buttocks as possible and keep distance between the feet and the knees equal to shoulder width. Slowly raise the buttocks up as much as possible so that in the final posture only the head, the neck, the soles of the feet and the hands are touching the ground. Maintain normal breathing. Awareness is focused on the region, the body involved in the asana and the breathing. Gradually bring the buttocks down and release the asana.

SETUBANDHASANA

सेतुबंधासन



11) BHUJANGASANA : While lying on the abdomen, feet are kept together, soles facing upwards and forehead touching the ground. The hands are bent at the elbows and are placed on either side of the chest. First the neck is bent backward by stretching the chin forward on the ground and then the trunk and chest is slowly raised up to the navel region. Care should be taken not to raise the trunk beyond the navel and not to make the hands straight at the elbows. Very little burden should be felt on the hands and the distance between the elbows at the back should be minimum.

BHUJANGASANA

भुजंगासन



12) SHALABHASANA : (a) ARDHA-SHALABHASANA : In the prone lying position with the chin resting on the ground and fists clenched on the side of the body, one leg is slowly raised up without bending the knee. The leg is lifted as high as possible without any sideward tilt in the pelvis. The same movement is repeated on with the other leg.

ARDHA-SHALABHASANA

अर्ध शलभासन



(b) PURNA-SHALABHASANA : In the prone lying position, with chin resting on the ground and fists clenched by the side of the thighs, both the legs are lifted up together without bending the knees. Raising of the legs should be smooth and without any jerk. To make the legs go up to maximum level, one may take up the deepest inhalation and holding the breath inside one may lift the legs in one sweep. In weak people, they may not hold the breath inside but should continue breathing normally in the final pose.

PURNA-SHALABHASANA

पूर्ण शलभासन



13) NAUKASANA : In a prone lying position one stretches the hands above the head on the ground and lifts the legs and arms simultaneously assuming the position of a boat.

NAUKASANA

नौकासन



14) DHANURASANA: In a prone lying position, chin is rested on the ground. Both the legs are then bent at the knees till they are well folded upon the thighs. The ankles are then grasped with the hands and the trunk as well as the knees are simultaneously raised bringing the whole weight on the abdomen. In case of beginners the knees may be kept apart. Later on they should be drawn closer till at last they are together. Hands should be kept straight at the elbows and while looking up by bending the neck backward one can secure maximum backward curve to the spine.

DHANURASANA

धनुरासन



15) MAKARASANA: In the prone lying position legs are spread out with feet about 20 inches apart and crossing the arms at the elbow, hands are placed on the opposite shoulders. The head is then allowed to rest on the cushion provided by the arms.

MAKARASANA

मकरासन



16) KATIVAKRASANA : Lying in supine position bring the hands parallel to the shoulders with palms facing the ground. Fold both legs at the knees bringing the heels close to the buttocks. Soles of the feet are touching the ground. Slowly turn both feet on the right hand side and simultaneously turn the neck on left hand side. In the final posture the entire right leg touches the ground and left knee remains in contact with right knee. Breathing is normal in the final posture. Coming back to the starting posture repeat the same on the other side.

KATIVAKRASANA

कटिवक्रसन



17) JANUSHIRSHASANA : Sitting with both legs stretched in front slowly fold the right leg at the knee so that the right heel touches the perineal region. Make hooks out of the index fingers of both hands and sliding the hands down the knees try to hold the toe of the left leg without bending the left knee. In the final posture try to touch the forehead or nose to the left knee and the elbows to the ground. Breathing is normal in the final posture. Slowly release the asana, come to the starting posture and repeat on the other side.

JANUSHIRSHASANA

जानुशीर्षसन



18) PASCHIMOTTANASANA : In a sitting position with both legs straight at the front, one bends forward a little & making hooks of the forefingers catch hold of big toes if possible.

PASCHIMOTTANASANA
पश्चिमोत्तानासन



19) VAKRASANA : In the sitting position with both legs straight in front, one bends the right knee and keeping it vertical places the right foot next to left knee. Then, one places his right hand behind the back, in the line of the spine in such a way that trunk remains erect. Then the left arm is brought from outside the right knee and either right ankle is grasped by the left hand or the left palm is placed on the ground facing downward by the side of the right knee. Then one pushes the right knee as far to the left as possible while slowly twisting the trunk to the right as far as one can. The knee is kept firmly in position, offering good resistance to the opposite arm. The face too, is turned to the right, till the chin comes in line with the right shoulder. The same procedure is followed with the left side.

VAKRASANA
वक्रासन



20) ARDHA-MATSYENDRASANA : In a sitting position with both the legs straight in front, the right leg is bent at the knee and keeping it near the ground, the right heel is set against the perineum with the right sole against the inside of the left thigh. Then, the left leg is also bent in the knee but in vertical position and left foot is placed on the ground near the outside part of the right knee. The right arm is then brought around the left vertical knee to grasp the left foot and the trunk is rotated to the left till the right upper arm and shoulder, and the left knee stand pressing against each other. The left hand is then swung back and placed on the right thigh. The neck is also twisted so that the chin comes in line with the left shoulder. One should not sit on the heel and should keep the trunk erect while twisting. The erect knee acts as a fulcrum for getting maximum twist. This whole movement is to be repeated on the opposite side.

ARDHA MATSYENDRASANA

अर्ध मत्स्येन्द्रासन



21) BHADRASANA : Sitting with both legs stretched out in front, slowly fold both the legs at the knees joining the soles together. Holding the ankles bring the heels under the perineum region. Both knees should remain in touch with the ground, the body held erect and the gaze in front or eyes closed. Release the asana slowly and return to starting posture.



BHADRASANA

भद्रासन



22) PARVATASANA : After assuming the position of Padmasana one brings the palms of both the hands in front of the chest in the Namaskara position. Then, keeping the palms pressed against each other raise the elbows and palms to bring them above the head. Then, one stretches the arms upwards as far as they could go, keeping the palms together.

PARVATASANA

पर्वतासन

23) VAJRASANA : In a sitting position with both the legs straight in front, one bends left leg at the knee and catching the left foot with left hand places it, sole upwards, against the left buttock. The heel is kept turned outside. The same procedure is adopted with the right foot, so in the final position, a circular curve is made by the two feet surrounding the buttocks. One sits erect on the buttocks, palms covering the knees and eyes closed. In other variety, the legs, instead of staying clear of thighs, are placed under them, so that one sits on the ankles.

VAJRASANA

वज्रासन



24)YOGAMUDRA:

(a) IN VAJRASANA : after assuming the position of Vajrasana, one keeps the clenched fists on either side of the groin and bends slowly forward trying to touch the forehead to the ground. In the final stage one relaxes the trunk, shoulders and hands allowing the elbows to come down near the ground.

YOGAMUDRA IN VAJRASANA

योगमुद्रा वज्रासन मुद्रा में



(b) IN PADMASANA : after assuming the position of Padmasana, with heels pressing against the lower part of the abdomen on either side, hands are taken at the back and left wrist is grasped in the right hand or vice-versa. Then, one bends slowly forward, trying to touch the forehead to the ground. In the final stage, one relaxes the trunk, shoulders and hands allowing the elbows to come down near the ground.

YOGAMUDRA IN PADMASANA

योगमुद्रा पद्मासन मुद्रा में





25) USTRASANA : Kneeling down adjust the distance between the knees and feet equal to hip width and keep the thighs, trunk and head vertical. The toes are touching the ground. Leaning backwards, slowly turn to the right side and grasp the right heel with the right hand. Similarly grasp the left heel with the left hand. Allow the head to hang backwards. Gently push the thighs, the pelvis and the abdomen forwards. Hold as long as is comfortable in this final posture. Breathing is normal. Slowly revert to the starting posture.

USTRASANA

उष्ट्रासन

26) PDAHASTASANA : In a standing position with both the feet together without any gap in between, one raises both the arms upward and then starts bending forward beginning first in hip joints and then in lower back till the fingers touch the ground and palms could be placed next to respective side foot with fingers pointing forward.

PADA HASTASANA

पाद हस्तासन





27) TRIKONASANA: In a standing position with both the feet placed about 20 inches apart, one spreads both the arms bringing them in the line of shoulders. Then one twists the whole trunk alongwith the arms on right side and then bends forward bringing the left arm down towards the right foot and left arm going vertically upward. The same movement is repeated with twisting on the opposite side.

TRIKONASANA
त्रिकौणासन

28) UDDIYANA : After exhaling forcefully, close the Glottis and perform mock inhalation. The abdomen muscles should be kept relaxed to allow them to be sucked inwards. The final posture with external retention of breath is maintained as long as is comfortable. Slowly breathe in and release the bandha. Uddiyana bandha can be performed while standing, while sitting cross-legged, in Vajrasana and also while lying supine with legs folded at the knees.

UDDIYANA उड्डियान
STANDING/SITTING/LYING
खडे होकर/बैठकर/लेटकर

Standing





Sitting



Lying

29) NAULI : After adopting Uddiyana in a standing position, give a forward push to the abdomen just above the pubic symphysis by pressing both palms on the knees. When both palms are pressed on the knees, both the recti muscles would contract and stand out. When any hand is pressed down, the recti muscle of the side would alone stand out. Thus, by alternating the pressure above the knees one can make the right and left recti muscles stand out in an alternating manner giving the feeling of vertical circular movement in the front abdominal muscles known as Nauli-chalana.

NAULI नौली

MADHYA/VAMA DAKSHIN/CHALAN मध्य/वाम-दक्षिण/चालन



30) AGNISARA: After exhaling forcefully, close the Glottis and push the abdomen out keeping it tight for a few moments and then pull it inwards once again tightening it. These forward and backward movements of the abdomen are done alternately 3 to 6 times with external retention of breath. Release Agnisara when the abdomen is inward by slowly inhaling and simultaneously opening the Glottis. Like Uddiyana Bandha, Agnisara can also be performed in several postures.



FOOD - THE BASIC EIGHT GROUPS

The Basic foods are conveniently divided into EIGHT groups. Every food group is a good source of two or more nutrients and as such deserves to be included in every meal to maintain health.

- 1. CEREALS :** They form the staple food in our diet. Besides Rice, Wheat, Jowar, Bajra and Ragi, this carbohydrate-rich group of foodgrains also include unfamiliar millets such as wari, samai, kodra, rajgira etc. They are the main source of energy in our diet. Unprocessed cereals as consumed/ recommended, are an important source of proteins, vitamin B1 and iron. Ragi is exceptionally rich in calcium. Wheat contains more proteins than rice and other cereals, although rice has a better digestibility and higher biological value.
- 2. PULSES, NUTS AND OIL SEEDS :** Both the whole pulse and the split pulse, called dal are rich source of proteins and vitamin B. Pulses after germination (sprouting), also provide vitamin C. Nuts (and oilseeds) besides are a rich source of fats.
- 3. ROOTS AND TUBERS :** These include potatoes, sweet potatoes, raddish, yams, etc. which are rich in carbohydrates. Carrots are exceptionally rich in vitamin A (Carotene).
- 4. GREEN VEGETABLES :** They include both leafy and non-leafy vegetables. These are excellent sources of several vitamins and minerals, particularly true for green and yellow leaves. Vitamin A content increases with greenness. They contain a large amount of indigestible fibre called 'roughage.'
- 5. FRESH AND DRIED FRUITS :** Fresh citrus fruits are an excellent source of vitamin C. Mango and papaya are rich in carotene. Dry fruits like raisins, apricots, figs and dates are rich in sugars and minerals, especially iron.
- 6. FATS AND SUGARS :** These include the various cooking oils, salad oil, hydrogenated fats (Vanaspati), Milk-fats (e.g. butter and ghee), lard and sweetening agents, such as sugar, gur and honey. Oils and fats collectively are the most concentrated source of energy.
- 7. MILK AND MILK PRODUCTS :** Milk is the most complete natural food. It is particularly valued for its protein, vitamins and calcium

contents. For the strict vegetarians it is the only source of good quality proteins (and vitamin B12)

8. **FLESH, FOWL, FISH AND EGGS** : The inclusion of these foods makes the diet a non-vegetarian or a mixed one. It is an excellent source of good quality proteins and vitamin B complex. A non-vegetarian, therefore, needs to consume less of milk and pulses.

ENERGY REQUIREMENTS

1. **BASAL METABOLISM** : The amount of energy needed to maintain life i.e. even when the body is lying still, at complete rest (both physically and mentally) called BASAL.

METABOLIC: requirement is proportional to the body surface as calculated from the height and weight of an individual. This need rises steadily from birth up to the end of adolescent period. Women have lesser needs than men owing to shorter stature and shape. The requirements for basal metabolism of an average adult man and an adult woman in our country are about 1600 and 1300 calories, respectively.

2. **PHYSICAL ACTIVITY** : a) Additional calories are required even for non-occupational activities such as standing, eating, dressing, moving about and so forth.

b) Extra calories are required for the performance of muscular work as part of the occupation of an individual.

c) No energy from food is required for MENTAL WORK.

The total caloric needs of any individual depends upon surface area, age (during childhood), physical activity, occupation and physiological stress (such as pregnancy and lactation).

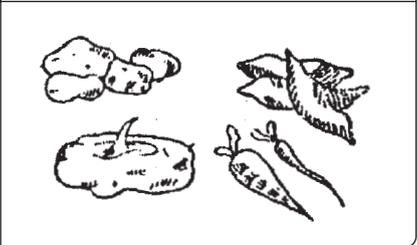
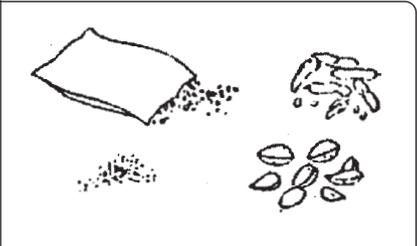
In the case of adults, any 'Housewife' as also any desk worker, an officer or a clerk-typist or a teacher, is considered to be engaged in sedentary occupation and as such, requires less calories than a practicing Doctor, a roving social/field worker, an engineer, a tailor, a shoemaker or a carpenter. The requirements for Agricultural/Industrial activity or heavy plantation and/or mining work are still greater.

FOOD - THE BASIC EIGHT GROUPS

CEREALS



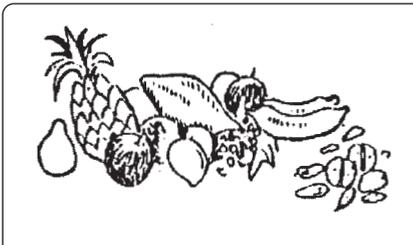
PULSES, NUTS & OIL SEEDS



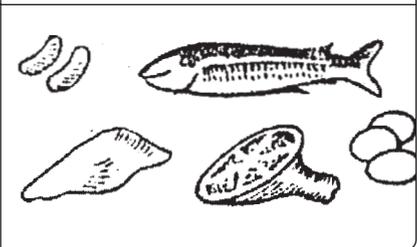
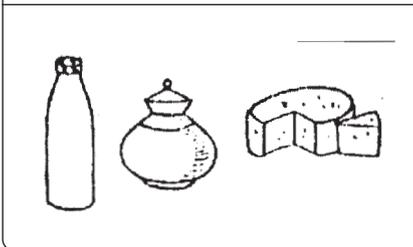
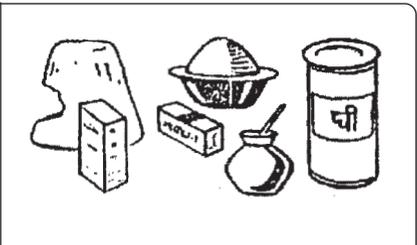
ROOTS AND TUBERS

GREEN VEGETABLES

FRUITS - FRESH & DRIED

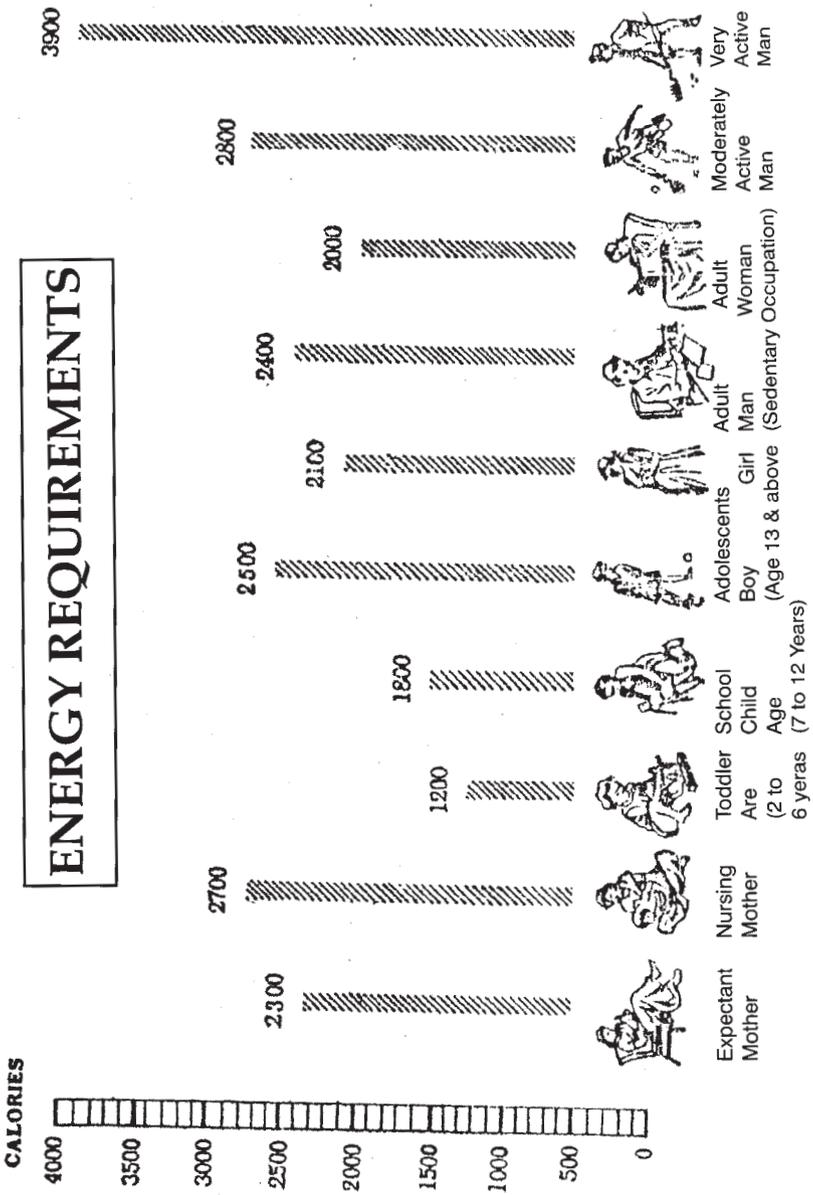


FATS & SUGARS



MILK & MILK PRODUCTS

FLESH, FOWL, FISH, EGGS



YOGIC DIET :

In the text books, for the students of Yoga, Mitahara diet (balanced diet) has been recommended. In order to emphasize on observance of “Mitahara” it has been said that ‘he who begins the practice of yoga, without controlling, his food habits, suffers from many diseases and does not make any progress in Yoga.

Yogic literature has defined “Mitahara” in the following ways :

ब्रह्मचारी मिताहारी त्यागी योगपरायणः ।
अब्दादूर्ध्वं भवेत् सिद्धो नात्र कार्या विचारणा ॥

One who is devoted to yoga practising continence, moderation in diet and renunciation, attains success in one year or a little more; there is no room for doubt in this (statement).

सुस्निग्धमधुराहारश्चतुर्थांशविवर्जितः ।
भुज्यते शिवसंप्रीत्यै मिताहारः स उच्यते ॥

Eating sweet, unctuous food offered (first) to the Almighty (i.e. not eaten for one’s own satisfaction) leaving one quarter (of the Stomach) empty - this is known as Mitahara.

Hathapradipka 1/57&58

शुद्धं सुमधुरं स्निग्धमुदरार्धविवर्जितम् ।
भुज्यते सुरसंप्रीत्या मिताहारमिम विदुः ॥

They call that Mitahara (controlled diet) which is pure, sweet, lubricated and fills only half the stomach and which is palatable and is eaten to please the god (in oneself).

अत्रेन पूरयेदर्धं तोयेन तु तृतीयकम् ।
उदरस्य तुरीयांशं संरक्षेद्वायुचारणे ॥

One should fill half the stomach with food, one quarter with water and the fourth quarter should be reserved for the free movement of vayu.

Gheranda Samhita V/21 &22

मिताहार जो नर्वे की समझ लेहु मनमाहि ।
सतगुन भोजन खाइये ऐसा वैसा नहिं ॥

Mitahara (moderate diet) occupies the ninth place. Try to understand it very clearly. Try to eat the food which gives you satwik feeling.

खावै अन्न बिचारिके खोंटा खरा सेंभार ।
जैसाही मन होत हैं तैसा करै अहार ॥

Also try to eat with due thoughts: the food which is going to be served is proper or improper; earned with honesty or dishonesty. You will develop the feeling as your food is.

सूक्ष्म चिकना हलका खावै । चौथा भाग छोडि करि पावै ॥
वानप्रस्थ कै हो संन्यासै । भोजन सौलह ग्रास गिरासै ॥
अरू गृहस्थ बत्तीस गिरासा । आव नींद न बहुत न श्वासा ॥
ब्रह्मांचारी भोजन करै इतना । पठन माहँबीरजन है जितना ॥

Eat light and easily digestible food which contains Ghee and always keep empty one fourth of your stomach. A Vanaprastha (person who has given up the responsibility of family) or a person who has completely renounced the world should eat only 16 mouth full of breath; if he is a family man, then 32. The reason for this is to avoid sleepiness or increase in the rate of breathing. A celebrity should eat as much quantity of food as semen remains in the body.

Saint Charandasa 1/38/39/40

Please note : Every individual should decide for himself with regard to quantity of food to be consumed depending on one's need and capability. For this, it is necessary to know one's own intensity of appetite and further this knowledge can be applied only if we know as to "when to eat and how to eat".

Many diseases of modern times are mainly because of non-observance of the rule of quantity to be consumed. Therefore, it is necessary that we identify our need and eat accordingly. Then only we can be benefitted from the food we consume.

Yogic literature has also defined the quality of food. It has defined the basis of the quality of the food stuff.

Recommended food:

गोदूमशालियवषष्टिकशोभनात्रं क्षीराज्यखण्ड नवनीतसितामधूनि ।
शुष्ठीपटोलकफलादिकपच्चशाकं मुद्गादिदिव्यमुदकं च यमीन्द्रपथ्यम् ॥

Good grains : wheat, rice, barley and sastika (as special variety of rice) milk, ghee, sugar, butter, sugarcandy, honey, dry ginger, the patolaka fruit (Paravana a kind of cucumber), the five leafy vegetables, greengram and drain water collected when the sun is in magha- (the 10th lunar mansion) etc. are considered to be wholesome food for advanced Yogis.

Hathapradipka 1/61

शाल्यन्न यवपिष्टं वा तथा गोधूपिष्टम् ।
मुद्गं भाषचण कादि शुभं च तुषवर्जितम् ॥
पटोलं सुरणं मानं कक्कोलं च शुकाशकम् ।
दाढिकां कर्कटीं रम्भां डुम्बरी कण्टकण्टकम् ॥
आमरम्भां बालरम्भां रम्भादण्डं च मूलकम् ।
वार्ताकीं मूलकं ऋद्धिं योगी भक्षणमाचरेत् ॥
बालशाकं कालशाकं तथा पटोलपत्रकम् ।
पच्चशाकं प्रशसीयाद्वास्तूकं हिमलोचिकाम् ॥

A yogi should eat food prepared from rice, flour or barley and wheat, green gram, black gram, horse-gram etc. which should be clean and free from husk.

A yogi should eat patola, surana, mana, kakkola, sukasaka, dradhika, karkati, rambha, dumbari, kantakantaka, amarambha, balarambha, rambhadanda, mulaka, vartaki and riddhi. He may eat the five recommended leafy vegetables viz. Balasaka, kalasaka, patola patra, vastuka and himalocika.

Gheranda Samhita V/17-20

Apart from above, fresh butter, ghee, milk, sugarcane, jaggery, banana, coconut, grapes, clove, cardamon, dhatri, rasa, nutmeg, apple, jambala, harda are also recommended food.

Even though above are the recommended food, the yogi should eat the food on the basis of :

लघुपाकं प्रियं स्निग्धं तथा धातुप्रपोषणम् ।
मनोभिलषितं योग्यं योगी भोजनमाचरेत् ॥

Easily digestible, agreeable, soft and sticky which nourishes the elementary substances of the body and which is desirable and proper.

Gheranda Samhita V/29

पुष्टं सुमधुरं स्निग्धं गव्यं धातुप्रपोषणम् ।
मनोभिलषितं योग्यं योगी भोजनमाचरेत् ॥

Nutritious, Sweet, and unctuous, products of cow's milk and nourishing food of their own choice are suitable for practice of Yoga. Non-recommended food :

कट्वम्लतीक्ष्णलवणोष्णहरीतशाक
सौवीरतैलतिलसर्षपद्यमत्स्यान् ।
आजादिमांसदिधतककुलत्थकोल
पिण्याकहिङ्गुलशुनाद्यमपथ्यमाहुः ।

Eating food which is bitter, sour, pungent, salty, or hot green vegetables, sour, gruel, oil, mustard and sesame and (consuming) alcohol, fish, meat, curds, butter-milk, kulattha, berries, oil-cakes, asafoetida, garlic, etc. are said to be bad for a Hatha Yogi.

Hathapradipka 1/59

कट्वम्लं लवणं तिक्तं भृष्टं च दधितककम् ।
शाकोत्कटं तथा मद्यं तालं च पनसं तथा ॥
कुलत्थं मसुरं पाण्डुं कूष्माण्डं शाकदणकम् ।
तुम्बीकोलकपित्थं च कण्टबिल्वं पलाशकम् ॥
कदम्बं जम्बीरं बिम्बं लकुचं लशुनं विषम् ।
कामरङ्गं पियालं च हिङ्गुशाल्मलिकेमकम् ॥

In the beginning of yogic practices one should avoid bitter, sour, salt, pungent, scorched food, curds, butter-milk, heavy vegetables, liquor, palm-nuts, jack-fruits, kulattha, masura, pandu, kusmanda, vegetable-stems, gourds, berries, kapittha, kanta-bilva, palasaka,

kadamba, jambira, bimba, lakuca, lasuna, lotus-stalk, fibres, kamaranga, piyala, hingu, salmali, kemuka.

कठिनं दुरितं पूतिमुष्णं पर्युषितं तथा ।
अतिशीतं चाति चोष्णं भक्ष्यं योगी विवर्जयेत् ॥

A yogi should avoid food that is hard, polluted, putrid, producing heat inside the body, stale, extremely cold and extremely hot.

Gheranda Samhita V/23-26 & 30

Swami Kuvalayananda (Yogic Therapy)

The diet prescribed for the students of Yoga, especially for one who practices Hatha Yoga Methods, is a very strict one. He is enjoined to eschew not only pungent and sour articles but also to avoid salt (the usual table salt) as far as possible.

Flesh foods and stimulant beverages should be strictly avoided. A lacto-Vegetarian diet with tolerable amount of cereals but not much of pulses is generally the one that is mostly recommended.

It should be noted that while the westerners divide food in to Vegetarian and Non Vegetarian and include in the latter all animal products. In India the food is classified into flesh food and non flesh foods.

The idea behind this classification seems to be that there is less of life in flesh. The life energy latent in inert substances like earth, water, etc. gets first concentrated in plants and it passes into the animal body only 'second hand.' The carnivorous animals subsist mostly on the flesh of (Vegetarian) herbivorous animals.

Though man seems to have passed through both carnivorous as well as herbivorous stages, he has adopted more of a herbivorous life through experience of age.

People who are accustomed to flesh foods seem to think that they cannot subsist on mere vegetables. Those medical men who are accustomed to such a diet, advise their patients against pure vegetarianism, forgetting that there are plenty of men in the world who subsist on vegetarian food and are none the worse for it.

Eggs, though considered as non-flesh food, are not recommended in Yoga because of their high protein contents. On the whole, the diet prescribed for regular Yogic practitioners, seems to be 'Low protein diet.'

The reason behind this seems to be that is a higher adreno-sympathetic tide atleast in the beginning stages. The Pranayamic and other Yogic exercises mostly stimulate the para-sympathetic systems of the body and this seems to give rise to a compensatory over-balance of adreno-sympathetic activity initially. It takes some time for the system to regain its normal equilibrium, after some period of constant practice.

1. To resort to a low protein diet, salt free (the salt being sodium salt) as possible and to eschew all irritating or stimulating articles from his diet.
2. To avoid all strenuous activities - even long brisk walks.
3. Since a general salt withdrawal has been prescribed, to avoid a depletion of salt that are already in the body. With this end in view, one is advised to avoid sitting by the fire-side, sexual intercourse and long walks and other strains.
4. To train oneself to cultivate an impersonal outlook on life so as to avoid irritations in one's inter-personal relationship.

THE WHOLE AIM SEEMS TO BE TO HELP MAINTAIN AN ADEQUATE ACID-BASE BALANCE IN THE BODY THAT IS CONDUCIVE TO ASSIST A READY ADAPTABILITY BUT NEITHER ADD TO AN OVER-IRRITABILITY NOR TO LACK OF SENSITIVITY.

Please Note : While prescribing the diet the above mentioned principles have to be considered. It is especially the circumstances that have led the Yoga experts to advise a particular diet to the novices in Yoga practice. It is not mandatory to observe strict diet by regimen for the patient.

The preceding discussion is only intended to indicate the line of thinking in the prescription of diet in Yogic therapy.

The dietetic needs of every individual case, according to its disorders and dysfunctions, will of course have to be taken into consideration in actual practice.

AS NOTED ABOVE, WE HAVE PURPOSELY GIVEN HERE ONLY THE PRINCIPLE OF YOGIC DIET. IT WOULD BE UNWISE TO DOGMATISE ABOUT SUCH SUBJECTS. FOR A SUITABLE DIET DEPENDS SO MUCH ON AVAILABILITY OF FOODSTUFFS AND THEIR PREPARATIONS, AS ALSO ON CLIMATE, AGE, PERSONAL HABITS.

**ENERGY EXPENDITURE PER HOUR DURING
DIFFERENT ACTIVITIES AND EXERCISES
(FIGURES ARE OF A MAN WEIGHING 70 KILOGRAMS)**

S.No.	Activity	Calories per hour
01.	Sleeping	66
02.	Awake lying still	77
03.	Sitting at rest	100
04.	Standing relaxed	105
05.	Dressing & Undressing	118
06.	Sewing (Tailoring)	135
07.	Typing rapidly	140
08.	Light Exercise	170
09.	Walking Slowly	200
10.	Badminton	270
11.	Dancing	273
12.	Active exercise	290
13.	Golf	333
14.	Cycling	450
15.	Walking briskly	450
16.	Tennis	450
17.	Horse Riding	500
18.	Swimming	500
19.	Jogging	540
20.	Hockey	540
21.	Football	540
22.	Running	570
23.	Severe Exercise	600
24.	Squash	630
25.	Strenuous Exercise	650
26.	Walking Upstairs	1100

NUTRITIVE VALUES OF COMMON PREPARATIONS PER SERVING

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
CEREAL PREPARATIONS						
Bajara Chapati	1 Small	45	3.5	1.5	20.1	108
Biscuits	2 Pieces	19	1.6	2.0	9.9	64
Bread Toasted	2 Slices	46	4.0	1.0	23.6	120
Bun	1 Piece	31	2.3	2.3	17.5	100
Cake Plain	1 Piece	55	3.4	4.5	31.4	180
Corn Flakes	1 Cup	25	2.0	0.1	21.2	94
Jawar Chapati	1 Small	45	3.1	0.6	22.2	106
Maize Roti	2	142	9.6	5.5	56.4	314
Maize Roti and Methi Roti	1	71	5.5	1.6	29.6	155
Oat Meal	1 Cup	25	3.6	1.8	17.6	101
Ragi Roti	1	61	2.7	3.0	29.0	154
Rice (3Tablespoon daily)	1 Cup		2.9	0.1	30.2	138
Wheat Flour - Chapati	1 Thin	15	1.2	0.1	8.0	40
Wheat Flour - Khakra	1	15	1.2	0.1	8.0	40
Wheat Paratha	1	56	4.5	19.6	27.3	304
Wheat Puri	2	32	2.2	8.4	13.0	136
PULSE PREPARATIONS :						
Baked Beans	1/2 Cup	100	6.0	0.4	17.3	92
Bengal gram pulfed		30	6.4	1.5	16.7	100
Dal cooked Thin	1 Cup	200	7.0	2.3	14.0	105
Dal Fried	1/2 Cup	74	5.7	8.8	15.9	166
Dal Sookhi	2/3 Cup	74	8.4	8.3	21.4	194
Sprouted Green - Gram	1 Plate	67	6.5	6.7	15.4	148

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Sundal Bengal - Gram	1 Plate	142	9.8	11.1	33.2	272
Sundal Green - Gram	1 Plate	142	13.1	9.2	30.9	259
Sundal Dried - Peas	1 Plate	107	11.0	9.0	31.0	249

EGG, FISH & MEAT

Preparations

Bacon Cooked - Raw	1 Slice	7	1.8	4.4	0.0	48
Beef, corned - tinned	1 Slice	28	7.1	3.4	0.0	60
Brain	1 Serving	100	12.0	5.8	0.0	103
Chicken Boiled	1 Serving	100	17.0	6.7	0.0	132
Chicken Roast	1 Serving	100	29.6	7.3	0.0	189
Duck Roast	1 Serving	100	22.8	23.6	0.0	310
Egg Gravy	1 Cup	150	4.5	16.7	3.4	181
Egg Medium - Boiled	1	48	6.1	5.5	0.3	77
Egg Medium - Fried	1	52	6.1	9.2	0.3	120
Egg Medium - Omelette	1	62	6.6	9.8	0.3	120
Egg Small Boiled	1	30	4.0	4.0	0.2	52
Fish Fry	1 Plate	100	23.4	16.2	1.4	245
Fish with gravy	1 Slice	160	12.2	18.2	4.5	231
Ham with gravy	1 Slice	50	18.5	4.5	0.0	118
Lobster Boiled	3/4 lb	334	20.0	24.9	0.8	308
Meat Fry	1 Plate	142	21.8	26.0	4.5	339
Meat Gravy	1 Cup	170	23.0	29.0	6.2	278
Minced Meat - Curry	1 Serving	42	3.9	6.0	0.9	73
Mutton Chicken Soup thin	1 Cup	200	4.0	2.0	0.0	34
Mutton Lean	1 Slice	30	8.8	1.8	0.0	53

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Pomfret Fried	1 Serving	100	22.0	13.0	0.0	205
Prawns Cooked		100	21.2	1.8	0.0	104
Sausage Cooked	1	20	3.5	8.8	0.0	94

FRUITS

Apple Medium	1	66	0.2	0.3	9.9	42
Banana Large	1	100	1.2	0.2	23.0	99
Figs Fresh	2 Large 3 Small	100	1.4	0.4	19.6	76
Grape Fruit - Medium	1/2	180	0.9	0.4	18.2	72
Grapes	22-24	100	1.4	1.4	14.9	70
Guava Medium	1	100	0.9	0.3	11.2	51
Lime Sweet - average	1	150	1.2	0.5	13.8	63
Mango Alfonso	1	150	0.6	1.3	24.5	111
Melon Medium	1/2	150	0.9	0.2	8.1	37
Orange Medium	1	100	1.0	0.2	12.1	54
Orange Juice	1 Cup	200	1.6	1.0	21.0	96
Papaya Medium	1/3	100	0.6	0.1	7.2	32
Pineapple	1 Slice	84	0.3	0.2	11.5	44

FRUIT PRODUCTS

Fruit Cocktail	1/2 Cup	115	0.4	0.3	21.4	89
Canned Jam Jam (OneTablespoon)		20	0.1	0.1	14.2	58
Jelly (One Tablespoon)		20	0.1	0.1	13.0	52
Marmalade (OneTablespoon)		20	0.1	0.1	14.7	60
Squash, Orange, Lemon, Pineapple, Apple	1 Glass	0.1		0.0	17.1	69
Mango Squash	1 Glass	0.1		0.0	17.8	72

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
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MI LK & MILK PRODUCTS

Butter

(One Teaspoon) 5 0.0 4.0 0.0 36

Butter Milk 1Cup 2.4 5.0 2.8 66

(Buffaloes Milk)

Butter Milk 1Cup 1.8 2.0 2.8 36

(Cow's Milk)

Cheese 1 cube 30 7.1 9.1 0.6 112

Ghee 5 0.0 5.0 0.0 45

(One Teaspoon)

Ice Cream 1 Helping 100 4.1 11.3 19.8 196

Buffalo Milk 1 Cup 180 9.6 20.0 29.2 336

ml

Cow Milk 1 Cup 180 7.2 8.0 29.2 218

ml

FATS

Margarine (One Tablespoon) 14 Trace 11.3 0.0 100

Oil (One Tablespoon) 14 0.0 14.0 0.0 126

Vanaspati (One Tablespoon) 14 0.0 14.0 0.0 126

NUTS

Almonds 12-15 30 5.9 16.7 3.0 186

Cashew nuts 15 30 6.0 13.3 6.3 169

roasted

Coconut Water 1 Glass 240 0.2 0.2 10.8 46

ml.

Peanuts 1 Table- 15 4.0 7.0 3.3 86

spoon

(Groundnuts roasted)

Pistachio Nuts 30 15 2.9 8.0 2.8 88

Walnuts 8 Halves 20 3.2 12.8 3.2 128

SUGAR ETC.

Glucose 12 0 0.0 11.0 45

(One Tablespoon)

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Honey (One Tablespoon)		21	0.1	0.0	16.4	66
Jaggery (One Tablespoon)		15	0.2	0.1	14.0	56
Sugar Cube Sugar White (One Tablespoon)	1	6	0.0	0.0	6.0	24
Sugar White - Rounded (One Tablespoon)		5	0.0	0.0	5.0	20
		8	0.0	0.0	8.0	32
SOUPS & CHUTNEYS						
Coconut Chutney (One Tablespoon)		28	1.2	6.0	3.5	73
Dhal-Tomato Soup (One Cup)		112	3.4	1.4	8.9	62
Groundnut Chutney (One Tablespoon)		30	4.3	6.9	5.9	97
Mint Chutney (One Tablespoon)		35	0.9	Trace	7.0	33
Til Chutney (One Tablespoon)		31	8.8	4.9	16	117
Tomato Chutney (One Tablespoon)		26	0.5	0.9	2.3	19
VEGETABLES						
Raw Onion Cooked Green -	1	100	1.4	0.2	10.3	45
Peas	1/2 Cup	80	3.8	0.3	9.7	56
Boiled Potato Baked Sweet -	1 Med.	100	2.0	0.1	19.1	83
Potato	1 Med.	120	2.6	1.1	41.3	183
Cooked Yam	1/2 Cup	100	2.4	0.2	24.1	105
DESSERTS						
Cake Plain	1 Piece	75	3.5	8.3	32.3	218

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Cake Plain with Chocolate	1 Piece	87	3.9	10.4	48.1	302
Cake Sponge	1 Piece	50	3.4	2.4	29.5	153
Custard Baked	1 Helping	157	8.8	9.1	22.8	205
Custard boiled	1/2 Cup	130	7.1	7.3	18.2	164
Pie (apple etc.)	1 Helping	160	3.8	14.3	60.2	377
Pudding bread with raisins	1/2 Cup	110	5.9	6.6	32.0	210
Pudding rice with raisins	1/2 Cup	100	4.6	4.3	28.2	166
BEVERAGES						
Bournvita (2 Tablespoon with Cow's Milk)	1 Cup	230	10.2	11.1	28.8	265
Coca Cola	1 Bottle	170 ml.	0.0	0.0	20.4	78
Cocoa Powder (2 Tablespoon)		30	5.8	6.6	9.9	128
Horlicks (2 Tablespoon)		30	4.1	2.3	20.1	113
Ovaltine (2 Tablespoon)		30	3.8	1.8	20.6	109

Please Note : The Carbohydrate content of the following vegetables is less than 10%. Their calorie value is not considerable and these can be eaten by Diabetics without any restriction.

Amaranth Spined, Ambat Chuka, Bamboo tendershoots, Cabbage, Cauliflower, Agreens, Celery leaves, Chowli leaves, Coriander leaves, Fenugreek, Gogu, Mint, Spinach, Takla, Beetroot, Radish, White or Pink Turnip, Ashgourd, Bitter gourd, Brinjal, Broad beans, Catabash cucumber, Colocassin stem, Cucumber, Drumstick, French Beans, Ghosala, Giant Chillies, Jack Tender, Kovai Fruit tender, Knol-khoi, Lady's finger, Parwar, Plantain flower, Pumpkin, Radish table, Snake gourd, Tomato Green, Vegetable marrow.

APPROXIMATE NUTRITIVE VALUE OF SOME SNACKS

Name	House- hold measure	Wt. Gms. gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Bhajia Brinjal	1	30	1.8	8.9	6.7	114
Bhajia Capsicum	1	39	1.4	5.5	4.4	71
Bhajia Cauliflower	1	17	1.0	4.2	3.4	56
Bhajia Kela	1	7	0.4	2.4	1.5	29
Bhajia Leaf	1	10	1.2	2.2	4.1	47
Bhajia Onion	1	10	0.6	2.0	2.3	33
Bhajia Potato	1	15	1.0	3.7	5.6	60
Bhajia Spinach	1	6	0.6	2.0	2.3	33
Bonda Bread	1	29	1.7	4.7	7.4	79
Bonda Mysore	1	8	0.7	1.2	1.7	21
Bonda Potato	1	28	1.1	2.0	9.6	61
Boondi	1 Plate	31	3.4	16.9	9.7	204
Chakali	1	0	2.8	14.4	7.4	170
Chips Banana	1 Plate	23	1.0	10.2	9.4	173
Chips Potato	1 Plate	23	0.6	8.4	7.4	107
Cutlet Vegetable	1	60	1.2	8.6	11.0	126
Diamond Cuts Salt	1 Plate	16	1.2	5.9	7.5	88
Dosa Masala	1	101	4.6	8.4	29.4	212
Dosa Onion	1	132	7.3	13.0	47.8	337
Dosa Plain	1	100	4.1	9.7	28.2	216
Dosa Rava	1	38	4.0	13.0	26.0	240
Doughnuts	1	21	1.7	6.3	10.2	104
Idli	2	136	4.6	0.2	27.6	130
Idli Rava	2	114	5.0	8.5	28.7	212
Kachori	1	45	4.8	9.3	21.7	190
Khichadi Sago	1 Serving	45	5.5	15.9	4.3	182
Muruku	3	44	8.6	31.6	22.4	408
Pakoda	4	47	8.0	8.0	18.0	176
Papad fried	1	5.2	0.6	2.5	1.6	31
Pattice Potato	1	60	2.7	10.7	23.5	201
Poha Potato	1 Serving	60	1.8	3.1	21.8	123
Ragda	1 Serving	90	4.4	3.9	18.1	125
Samosa Potato	1	30	1.0	6.3	10.4	103
Tomato Omelette	1	56	3.2	5.1	10.3	100

Name	House- hold measure	Wt. Gms gms.	Pro- teins	Fats Gms.	Carbo- hydrates C.H.O.	Calories
Upma Rice	1 Plate	260	7.0	16.8	54.4	397
Upma Wheat	1 Plate	128	3.8	5.4	24.7	163
Vada Dahi	1	45	3.1	4.8	6.8	8.3
Vada Dal	1	30	3.4	5.6	10.4	105
Vada Masala	2	45	6.4	6.2	17.0	150

SNACKS (SWEET)

Barfi Coconut	1 Piece	30	2.6	6.8	12.3	120
Barfi Khoa	1 Piece	25	2.2	1.7	10.6	94
Gulab Jamun	1	36	0.9	10.7	56.6	326
Halwa Carrot	2 Pieces	85	1.8	13.9	50.2	333
Halwa Pumpkin	2 Pieces	64	2.6	20.3	37.0	342
Halwa Suji	2 Pieces	109	2.6	20.3	37.0	342
Jalebi	2 Pieces	41	1.4	5.6	39.2	313
Laddu (Boondi)	1 Piece	34	1.8	6.5	21.0	150
Laddu (Suji)	1 Piece	57	2.9	12.5	40.3	285
Mohan Thal	2 Pieces	43	5.1	16.4	21.0	252
Pooran Puri	1 Piece	58	4.5	9.0	30.5	221
Rabadi	1/2 cup	40	6.5	13.0	18.7	194
Rasayana (Sugar)	1 Plate	60	0.8	2.6	16.7	133

Please Note : The above Nutritive Value preparation of a Dish. Household measure:

One Medium size of Wati

(1 50 ml. Volume)

= 125 to 130 Gm. Raw Dal

= 125 to 130 Gm. Rice

=70 to 75 Gm. Wheat Flour

= 150 Gm. Curd

= 150 ML. Milk

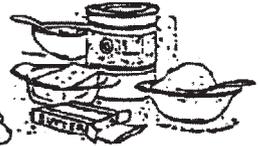
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1. The above Nutritive Values taken from FULL LIFE WITH DIABETES book written by Dr. A. S. Godbole.
2. Anita F. R. (1966) Clinical Dietetics and Nutrition, Oxford University Press, Mumbai, London and New York.
3. Central Food Technological Research Institute (1972) Balance Diets and Nutritive Value of Common Recipes, Mysore.
4. Radhakrishna Rao M. V. (1961) Diet Manual: A Compilation of Diets Recommended in Health and Disease Director, Govt. Printing and Stationery Maharashtra State, Mumbai.

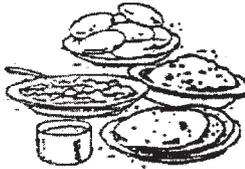
CALORIE COUNTER



LEAFY VEGETABLES	CALORIES
Cabbage (gobi)	45
Fenugreek leaves (methi)	49
Lettuce	21
Mayalu	32
Spinach (palak)	25



FATS & OILS	CALORIES
Butter	755
Ghee	900
Margrine	755
Oil (any vegetable oil)	900
Vanaspati Oil	900



CEREALS & CEREAL PRODUCTS	CALORIES
Bread white (1 slice 3 1/2"x4"x0.4")	60
Chapati, 1 med. (35g. atta)	80
Comflakes 1 cud (25g)	95
Dosa plain (1 med. 9" dia)	130
Idli (1 med. 3 1/2" dia)	100
Paratha plain	275
Pop-corn (50g)	170
Rice cooked (3 tab-spoons 60g)	70



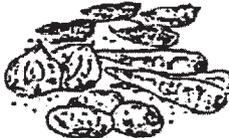
OTHER VEGETABLES	CALORIES
Bitter Gourd (karela)	25
Brinjal (baingan)	24
Capsicum (simla mirch)	24
Cauliflower (phool gobi)	30
Cucumber (kakdi)	13
Drumstick (sheng)	26
French beans (cha)	26
Lady Finger (bhindi)	35
Mushroom	42
Peas (mutter)	93
Plantain green (kela)	64



CONDIMENTS & SPICES	CALORIES
Asafoetida (hing)	297
Cardamom (elaichi)	229
Cloves Dry (lavang)	286
Coriander (dhana)	288
Garlic dry (lassoon)	145
Ginger fresh (adrak)	67
Pepper dry (kali meeri)	304
Turmeric (haldi)	349



PULSES & LEGUMES	CALORIES
Bengal gram (channa dal)	372
Black-gram (urad dal)	347
Green-gram (moong)	334
Lentil (masur)	343
Rajmah	346
Soyabean	432



ROOTS & TUBERS	CALORIES
Beetroot	43
Carrot (gajar)	48
Onion (pyaz)	50
Potato (aloo)	97
Sweet Potato (shokarkhand)	120



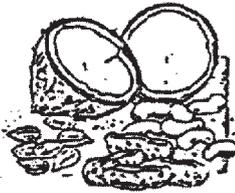
FRESH FRUITS	CALORIES
Apple	56
Banana	153
Chikku	66
Mango	80
Musambi	43
Orange	32
Papaya	43
Pineapple	45
Seethaphal	104



DRIED FRUITS	CALORIES
Bates, cummin	30
Figs dried	55
Raisins	315

HOUSEHOLD MEASURES USED	
Spoon :	2 1/2" long diameter
	1 1/2" Short Diameter
	0.3" depth
Cup :	3 1/2" diameter top
	2 1/4" depth
	2" diameter bottom

Where quantity is not specified, calories relate to 100 gm.



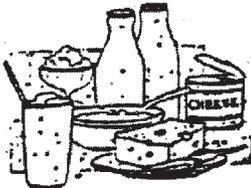
NUTS	CALORIES
Almonds (10g)	65
Cashew-nuts (10g)	88
Coconut dry (khopra)	662
Groundnuts (sheng)	560
Pistachio nut (pista)	626



SUGAR	CALORIES
Gur (jaggery 15)	57
Jam (1 teaspoonful 5g)	20
Sugar (1 teaspoonful 5g)	16



SOUPS	CALORIES
Cream of Chicken (1 cup 150ml)	85
Cream of Spinach (1 cup 200 ml)	206
Cream of tomato (1 cup 150ml)	85
Vegetable (1 cup 150ml)	65



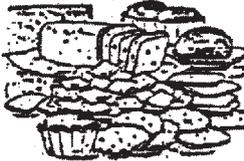
MILK & MILK PRODUCTS	CALORIES
Butter-milk slammed (1 glass)	25
Cheese processed	348
Custard (boxed)	114
Ice-cream	205
Kheer (payasam)	128
Milk Buffalo's (1 cup)	100
Paneer (10g)	10



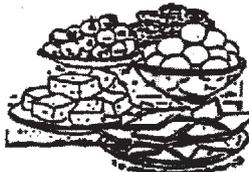
FISH OTHER SEA FOODS	CALORIES
Lobster	90
Pamfret	87
Prawn	89
Ravas	112
Sarcunes	80
Shrimp	349
Surmai	92



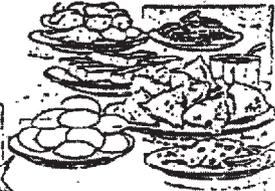
MEAT PRODUCTS	CALORIES
Beef (muscles)	114
Chicken (broiler)	151
Egg (1 40g)	65
Ham cooked	305
Mutton (muscle)	194



BISCUITS & CAKES	CALORIES
Biscuit (salted 3g)	15
Biscuit (sweet 4g)	24
Chocolate cake (45g)	165
Fruit cake (30g)	117



SWEETS	CALORIES
Burfi (25g)	100
Fruit Jelly	75
Gulab Jamun (25g)	100
Jalebi	412
Rasgulla (30g)	100



SNACKS & SAVOURIES	CALORIES
Chaat (Wheat flour)	550
Chewra (fried)	420
Dhokla	122
Kachori	166
Potato Vada	157
Samosa	256
Sev (50g)	325
Tomato Sandwich	182



BEVERAGES, SOFTS	CALORIES
ALCOHOLIC	
Apple Juice (200 ml)	95
Beer (240 ml)	112
Brandy (30 ml)	73
Coffee (1 oz milk, no sugar)	25
Gin dry (43 ml)	105
Rum, Whisky (43ml)	105
Tea (5 oz. milk, no sugar)	22
Wine sweet (100ml)	160



MISCELLANEOUS	CALORIES
Oat (cooked, thick consistency 1/3 cup 113g)	145
Papad (1 3/2 diameter)	
a) Grilled	25
b) Fried	43
Pickles (1 teaspoonful 5g)	38
Rasam 1 cup	12
Sambar 1/2 cup	105
Tomato Sauce 1 teaspoonful (10g)	7

TIPS FOR DIABETICS DIET :

- 1) Eat in a slow and relaxed manner
- 2) Don't eat while watching TV/listening to the radio or doing other activities.
- 3) Alcohol consumption could interfere with the medication. Hence, avoid it.
- 4) Follow the proper Meal plan given by the Dr./Dietician as per the nutritional requirement.
- 5) Eat high fibre meal which helps not only in satisfying your hunger but also keeps sugar levels under control.
- 6) Avoid sugar, honey, molasses and syrups.
- 7) Try to maintain diet timings.
- 8) If the diet timing is delayed then have buttermilk, fruit or juice.
- 9) Diet plays a very important role in the management of Diabetes.
- 10) Avoid temptations of Peda, Burfi, Rasmalai, Shrikhand, Basundi, Jam, Ice-Cream etc. as it rapidly increases the blood sugar levels which can be fatal or may lead to further complications.
- 11) Avoid eating excessively and untimely or frequently.
- 12) Avoid deep fried food.
- 13) Avoid dressings of the salads.
- 14) Avoid wines and soft drinks.

Hypoglycemia

(Symptoms of very low blood sugar levels)

- a) Confusion
- b) Lethargy
- c) Headache
- d) Weakness
- e) Excessive hunger
- f) Unconscious
- g) Abnormal behaviour
- h) Increased Heart Rate
- i) Blurred or double vision
- j) Increased sweating

Solution : A very low sugar level can be fatal, hence you can have 3-4 teaspoonful of powdered sugar strictly under such conditions only.

Exercises (Yoga)

Daily exercise is a must for every diabetic.

Yogasana Pranayama are essentially required to be practised everyday.

Walking is also a must for every Diabetic Patient.

After exercise your sugar level is lowered therefore take a snack.

- Never over exert yourself by strenuous exercise.
- Never exercise when your sugar level is low.
- Never exercise when you are sick.

Self Check Examination

1) Examine your feet for dry, scaling, cracked skin, redness, ulcers pus formations.

Foot Care

- Keep feet clean, dry and warm.
- Wash feet daily with warm water.
- Dry feet thoroughly, particularly between the toes.
- Wear comfortable, well fitted leather shoes.
- Avoid bare foot walking.

Lower the risks

- 1) Control your sugar levels
- 2) Control your blood pressure
- 3) Quit Alcohol and smoking
- 4) Monitor your sugar levels
- 5) Have a yearly eye check up
- 6) Keep the track with your Diabetologist
- 7) Don't increase, or decrease or stop your present medication
- 8) Know about your disease diabetes (Educate yourself)

