#### **Tech-Related Health Risks & How to Fix Them**

#### Technological Health Hazard

Technology can have a large impact on peoples' mental and physical health. Being overly connected can cause psychological issues such as distraction, narcissism, expectation of instant gratification, and even depression. Beside affecting the mental health, use of technology can also have negative repercussions on physical health causing vision problems, hearing loss, and neck strain. Fortunately, there are steps that can be taken to help alleviate these health issues.

#### Technology related health risks

- 1. **Smartphone stress.** Scientists have found an association between smartphones and stress, as people constantly check messages and alerts (why hasn't he/she texted me back?!)
- 2. **BlackBerry thumb.** Yes, blackberry thumb is actually a thing. That magic little scrolling ball BBMersworship can actually cause stress injuries to the thumb, which can cause tendonitis.
- 3. **Radiation from cell phones**. Cell phones emit some radiation that can be absorbed by the user, butresearch has yet to prove the amount can be harmful.
- 4. **Cell phones and accidents.** Chatting on the phone while driving is more than just distracting— it canactually reduce activity in the brain and draw our focus away from the road.

- 5. **Computers causing wrist pain**. Carpel tunnel syndrome, one cause of wrist pain, can occur from excessive typing.
- 6. **Computers causing back and neck pain.** It doesn't stop at the wrist. A recent study found leaning into read the small print on a tablet screen can strain the neck. And other research suggests hunching over that laptop (or desktop!) can cause pain in the neck and back.
- 7. **Decreased sperm count from WiFi**. Studiesfound that radiation from Wi-Fi can kill sperm if the computer is too close.
- 8. Laptop burns. A second-degree burns laptops have been known to cause .
- 9. **Sleeping problems** .The artificial light from screens of digital gadgets can suppress the release ofmelatonin, which helps us sleep .
- 10. **Headphone use leading to accidents.** The pedestrians have died while wearing headphones. Don't just turn down the volume; to really hear those trains, planes, and automobiles, unplug completely.

Hearing loss from headphones. Listen up and turn the music down. 11.

Blasting those tunes through ourheadphones can lead to hearing

impairment, so keep the noise at a safe listening level— around 80 decibels.

Danger, fraud from... social networking. Spending all day on 12.

Facebook, Twitter, Tumblr (and soon) can have negative biological and

emotional effects on the body as people substitute real social interaction with

online interaction.

Smartphone stress: 'always on' culture

Smartphone stress refers to getting anxious if there's no mobile phone signal is

there. If your phone is getting low on power, and you secretly worry things will

go wrong at work if you're not there. This is "always on" stress induced by

smart phone addiction. The smart phones have become a must in our pockets,

never allowing us to switch off and relax.



Smart phone use in train

#### Negative health impact of Cellphones

While cell phones provide an efficient and easy way to communicate with friends, family, and co-workers, excessive use can take a toll on your health. Mobile phones use transmitting radio waves through a series of base stations where radiofrequency waves are electromagnetic fields that cannot break chemical bonds or cause ionization in the human body, says the World Health Organization (WHO).



Always busy using smartphone

#### **Negative impacts**

#### Increases Stress Levels

The high frequency of cell phone use can have negative effects on our stress levels. The constant ringing, vibrating alerts, and reminders can put a cell phone user on edge. In a study conducted at the University of Gothenburg, Sweden, researchers examined if there is a direct link between the psychosocial aspects of cell phone use and mental health symptoms in young adults. Overall, excessive cell phone use can be a risk factor for mental health issues in young adults.



#### Increases Risk of Illnesses In the Immune System

The incessant touching of your phone can harbor germs on your handset. The greasy, oily residue you may see on your cellphone after a day's use can contain more disease-prone germs than those found on a toilet seat. In a study conducted at the London School of Hygiene & Tropical Medicine and Queen Mary, University of London, researchers sampled 390 cell phones and hands to measure for levels of bacteria. The results of the study showed that 92 percent of the cell phones sampled had bacteria on them — 82 percent of hands had bacteria — and 16 percent of cell phones and hands had E. Coli. Fecal matter can easily be transferred by cell phones from one person to another.

#### Increases Risk of Chronic Pain

Cell phones require constant use of your hands, especially when sending text messages and e-mails. Responding to messages at rapid speed can cause pain and inflammation of your joints. Back pain is also common with increased cell phone use, especially if you hold the phone between your neck and shoulders as you multitask. "Long periods of cell phone use cause you to arch your neck and hold your body in a strange posture. This can lead to hand and back pain.

#### Increases Risk of Eye Vision Problems

Staring at your mobile device can cause problems in your vision later in life. Screens on mobile devices tend to be smaller than computer screens, which means you are more likely to squint and strain your eyes while reading messages. According to The Vision Council, more than 70 percent of Americans don't know or are in denial that they are susceptible to digital eye strain.



Safe Headphone Use – How To Prevent Hearing Damage When Using Headphones

Headphones may be used to prevent other people from hearing the sound either for privacy or to prevent disturbance, as in listening in a public library.

Using headphones at a sufficiently high volume level may cause temporary or permanent hearing impairment or deafness. Extended periods of exposure to high sound pressure levels created by headphones at high volume settings may

be damaging; People with headphones may not be able to hear oncoming traffic or pay attention to vehicles around them and fall victim of accidents.



Signs of lower hearing in students

#### Precautions while using ear/head phone

- 1. Use the 60:60 rule: Use at 60% level of the maximum volume for no more than 60 minutes a day.
- 2. Have a hearing detox: Give time to ears to recover after they've been exposed to sound at least 16 hours of rest for your ears to recover after spending around two hours in 100dB sound.
- 3. Do not cross roads or railway tracks wearing head phone. Do not drive cars wearing head phone

#### Dangers of Wi-Fi exposure

Wireless routers – as well as Bluetooth and similar wireless systems – lets you exposed to electromagnetic radiation in the low-gigahertz frequency. This level is considered potentially dangerous to people. Most WiFi routers are not turned off at night, so you are exposed 24/7. All of them emit EMFs (Electro Motive Force)

#### Risks -

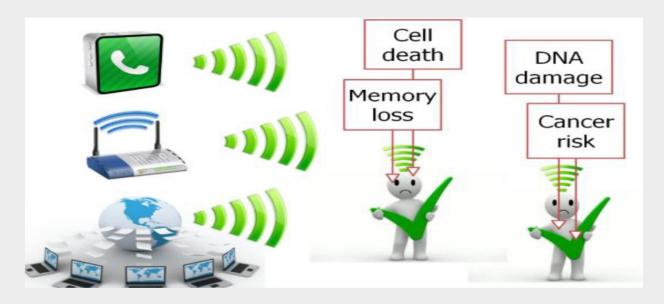
- Contributes to the Development of Insomnia
- Damaging to Childhood Development
- Affects Cell Growth (Cell Death)
- Derails Brain Function (Memory Loss)
- Reduces Sperm count and may impact Fertility
- DNA damage and Cancer risk ( suspected)











#### Precautions while using laptops and smartphones

- a) **Don't use it directly on the bed or pillows** A must precaution while using laptop.our computercan overheat and cause fire if your laptop vents are blocked.
- b) **Do not bend, sit tall** while using laptop otherwise there is a great chance of developingspondolysis.

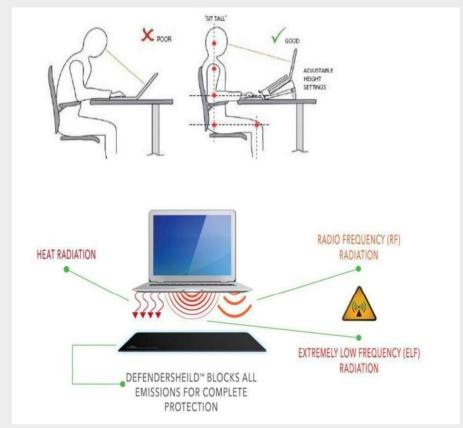
- c) **Use Laptop stations or stands**: these adjustable stands hold the laptop in a more upright position providing good screen height.
- d) Avoid radiation by keeping distance: Because of the nature of energy, radiation isexponentially stronger the closer you are to it. It follows the inverse-square law. The intensity is proportional to 1/distance squared. This means, if you are 2 inches away from the source, you experience ½ the amount of radiation exposure as you would if you were just 1 inch away from it. If you are 4 inches away from it, you now experience 1/8 the amount of radiation you would have if you were just 1 inch away. This is why a lot of cell phone manufacturers recommend you keep your cell phone at least several inches away from your body at all times.

Intensity 
$$\propto \frac{1}{\text{distance}^2}$$

e) **Avoid Blue Light Exposure** -The blue light after sunset can disrupt circadian rhythm and suppress melatonin production. Think about it, until the invention of electric light bulbs, people relied on the sun for the

majority of their light and used only natural sources like candles, campfires and lanterns after dark (all orange lights).





- f) **Avoid Source of Bacteria** An average smart phone has 10 times more bacteria that is foundon a toilet seat. While you touch your face with smart phone there is a glance of eyes and ear infection.
- g) **Attention Span** High level of smart phone use , makes our attention span less than that of a goldfish.
- h) Limit the time of use Wi-Fi connections operate between five main frequency ranges: 2.4GHz, 3.6GHz, 4.9GHz, 5GHz and 5.9GHz, Bluetooth operates on the 2.4GHz band, Cellular connectivity in smartphones operate on a multitude of frequencies, anywhere from 700MHz to 2.7GHz. So limit the use at minimum and avoid exposure to radiation.



**Health Issues & Health Education: Vision & Mission** 

Fast Food			

Easily prepared processed food served in stalls and restaurants as a quick meal or to be taken away is Fast Food.

Problems of Fast Food

#### Atherosclerosis

Fast foods contain high amounts of cholesterol and salt, two nutrients that contribute to cardiovascular health problems. The U.S. Centers for Disease Control and Prevention report a direct link between sodium intake and negative effects on blood pressure, and note that Americans consume most of their sodium in processed and restaurant foods. As with eating too many salty foods, getting too much cholesterol can cause plaque build-up in the arteries, or

atherosclerosis. This condition can lead to stroke, heart attack and death. A healthy diet that includes more whole grains, fruits and vegetables can help you avoid the health problems associated with atherosclerosis.

#### **Diabetes**

Many drive-through foods and drinks have high sugar content, including chocolate shakes, 62 grams of sugar, and colas, 44 grams, in 16-oz. servings as per the USDA. Fast food coleslaw, French toast sticks and even cheeseburgers contain significant amounts of sugar. Regularly consuming too much sugar can have permanent negative effects on your blood sugar levels.

Diabetes requires daily medication to treat blood sugar imbalances. Serious complications include glaucoma, hearing loss, kidney disease, high blood pressure, nerve damage and stroke. To reduce your risk for diabetes, the American Heart Association (AHA) suggests ordering beverages such as water, reduced-fat milk or diet soft drinks. Obesity

Fast foods are loaded with fat and calories. Ordering without restraint will have negative effects on your weight as you routinely take in more calories than you can expend. Hamburgers with multiple beef patties, cheese, bacon

and mayonnaise exceeds the 65 milligrams fat limit recommended by the USDA for the whole day.

The Office of the Surgeon General reports that obesity increases the risk for potentially fatal heart disease, diabetes and some cancers, as well as sleep apnea and asthma. Health problems such as arthritis and pregnancy complications are also more likely in obese individuals. It is advised to maintain a healthy weight by avoiding deep-fried and jumboportion dishes.

.

#### **Blood Pressure**

Blood pressure is the pressure of your blood on the walls of your arteries as your heart pumps it around your body. It's a vital part of how your heart and circulation works. A blood pressure reading under 120/80mmHg is considered optimal. Readings over 120/80mmHg and up to 139/89mmHg are in the normal to high normal range. The medical name for high blood pressure over a long period of time is hypertension.

#### Risk factors

Common hereditary and physical risk factors for high blood pressure include:

#### Family history

If your parents or other close blood relatives have high blood pressure, there's an increased chance that you'll get it, too.

#### Age

The older you are, the more likely you are to get high blood pressure. As we age, our blood vessels gradually lose some of their elastic quality, which can contribute to increased blood pressure. However, children can also develop high blood pressure. Learn more about children and high blood pressure.

#### Gender

Until age 64, men are more likely to get high blood pressure than women are.

At 65 and older, women are more likely to get high blood pressure. Learn more about women and high blood pressure.

#### Race

African-Americans tend to develop high blood pressure more often than people of any other racial background in the United States. It also tends to be more severe in African Americans, and some medications are less effective in treating HBP in blacks. Learn more about African-Americans and high blood pressure.

#### Chronic kidney disease (CKD)

HBP may occur as a result of kidney disease. And, having HBP may also may also cause further kidney damage.

**Modifiable risk factors -** These are the risk factors you can change to help prevent and manage high blood pressure, including:

#### Lack of physical activity

Not getting enough physical activity as part of your lifestyle increases your risk of getting high blood pressure. Physical activity is great for your heart and circulatory system in general, and blood pressure is no exception. Learn more about getting regular physical activity.

#### An unhealthy diet, especially one high in sodium

Good nutrition from a variety of sources is critical for your health. A diet that is too high in salt consumption, as well as calories, saturated and trans fat and sugar, carries an additional risk of high blood pressure. On the other hand, making healthy food choices can actually help lower blood pressure. Learn more about improving your diet.

#### Being overweight or obese

Carrying too much weight puts an extra strain on your heart and circulatory system that can cause serious health problems. It also increases your risk of cardiovascular disease, diabetes and high blood pressure. Learn more about managing your weight.

#### Drinking too much alcohol

Regular, heavy use of alcohol can cause many health problems, including heart failure, stroke and an irregular heartbeat (arrhythmia). It can cause your blood pressure to increase dramatically and can also increase your risk of cancer,

obesity, alcoholism, suicide and accidents. Learn more about alcohol, high blood pressure and the importance of moderation.

#### High cholesterol

More than half of people with HBP also have high cholesterol.

#### **Diabetes**

Most people with diabetes also develop HBP.

#### Smoking and tobacco use

Using tobacco can cause your blood pressure to temporarily increase and can contribute to damaged arteries. Secondhand smoke, exposure to other people's smoke, also increases the risk of heart disease for nonsmokers. Learn more about quitting smoking.

#### **Stress**

Stress is not necessarily a bad thing in and of itself. But too much stress may contribute to increased blood pressure. Also, too much stress can encourage behaviors that increase blood pressure, such as poor diet, physical inactivity,

and using tobacco or drinking alcohol more than usual. Socioeconomic status and psychosocial stress can affect access to basic living necessities, medication, healthcare providers, and the ability to adopt healthy lifestyle changes. Learn more about managing your stress.

#### Controlling high blood pressure

If you have high blood pressure, talk to your doctor about the best way to control it. Lifestyle changes

Your doctor may recommend that you make some healthier lifestyle choices, like changing the food you eat or getting more exercise. Find out more about important lifestyle changes to manage your high blood pressure.

#### Medicine

Many people also need medicine to control their high blood pressure. Your doctor will tell you if you need medicine, and monitor its effects. Blood pressure medicines don't cure high blood pressure, but they help to control it. You have to keep taking the medicines regularly, often for the rest of your life. Don't stop taking your medicine without talking to your doctor first. The wound should be covered at once with a clean dressing In case of a fracture the

injured limb should be supported and placed in natural position as far as possible with splints and bandages.

- 1. Make immediate proper arrangements to transport the patient to a hospital or to a qualified doctor are the vicinity It should however be remembered that the first aider need not to be a doctor. So he should never take upon himself the duties and responsibilities of a doctor. His responsibilities are over as soon as proper medical aid is available.
- 2. The injured should be given as much rest as possible and his body should be kept in a restful position.
- 3. In case to take out poison first.
- 4. In case of fracture the broken part should be saved from movement till proper medical aid is available.
- 5. Offer warm milk or tea if the patient is in senses he may be given a cup of a warm milk or tea

#### What is obesity?

Obesity is defined as the condition of being very overweight and having a body mass index, or BMI, of 30 or higher. The BMI is a measure of your weight relative to your height. You can find your BMI from a chart.

Your waist size is also important. It is a measure of your abdominal fat. Your health risks, especially for diabetes and heart disease but also some cancers, increase as your BMI and your waist size get larger. A waist measurement greater than 40 inches for men or 35 inches for women indicates a significant increase in health risk.

Nearly one third of adults are obese. It is a serious condition because it increases your risk of poor health and major illness.

Obesity is defined as having a body mass index (BMI) of 30 or more. BMI is a calculation that takes a person's weight and height into account. However, BMI does have some limitations.

Factors such as age, sex, ethnicity, and muscle mass can influence the relationship between BMI and body fat. Also, BMI does not distinguish between excess fat, muscle, or bone mass, nor does it provide any indication of the distribution of fat among individuals. Despite these limitations, BMI continues to be widely used as an indicator of excess weight.

#### **Causes of Obesity**

Eating more calories than you burn in daily activity and exercise (on a long-term basis) causes obesity. Over time, these extra calories add up, and cause you to gain weight.

Common specific causes of obesity include:

- · eating a poor diet of foods high in fats and calories
- · having a sedentary (inactive) lifestyle
- · not sleeping enough, which can lead to hormonal changes that make you feel more hungry and crave certain high-calorie foods
- · genetics, which can affect how your body processes food into energy and how fat is stored · growing older, which can lead to less muscle mass and a slower metabolic rate, making it easier to gain weight

· pregnancy (weight gained during pregnancy can be difficult to lose and may eventually lead to obesity)

#### How does exercise help in the treatment of obesity?

The goal of treatment for obesity is weight loss. Exercise is an essential part of any weightloss program and should become a permanent part of your lifestyle.

The benefits of exercise can include:

- ·burning off calories and losing weight
- · maintaining muscle tone
- · increasing your metabolic rate (the amount of calories your body burns 24 hours a day) · improving circulation
- · improving heart and lung function
- · increasing your sense of self-control
- · reducing your level of stress
- · increasing your ability to concentrate
- · improving your appearance
- · reducing depression
- · suppressing your appetite
- · helping you sleep better **28** | Page

- · preventing diabetes, high blood pressure, and high cholesterol
- · decreasing your risk of some cancers, such as breast, ovary, and colon cancer

#### What type of exercise program is best?

Some people can lose weight by themselves, but most should seek help from a health care provider. Your provider will recommend the right kinds of exercise for you. Your provider may also refer you to a dietitian to plan your diet. A dietitian can teach you how to make healthier food choices and prepare meal plans that fit your specific diet needs. The goal of most diet and exercise plans is to help you lose 1 to 2 pounds a week.

As ways to gradually increase your physical activity, your provider may suggest that you:

- · Walk every day.
- · Take the stairs instead of the elevator.
- ·Do errands on foot, if possible. If you need to drive, park farther away and walk to your destination.
- · Go to a spa, gym, or exercise class. Water aerobic classes are especially good if you have back, knee, or joint problems.

• Do some form of strength training using gym equipment or your own body weight. In addition to making your muscles stronger and able to work longer without getting tired, strength training helps you burn more energy when you are at rest. Muscle mass burns more calories than fat so as your muscle increases so does your ability to burn calories. Walking is a great way for almost everyone to increase the amount of time they exercise. Using a pedometer can be fun and motivating. A pedometer is a device that attaches to your clothing and tracks how many steps you take in a day. A good goal is to work up to 10,000 steps a day (5 miles). If your provider agrees, try increasing your steps each week by 500 a day until you reach 10,000 steps a day.

#### MCI - Medical Council of India

The Medical Council of India (MCI) is a statutory body for establishing uniform and high standards of medical education in India. The Council grants recognition of medical qualifications, gives accreditation to medical schools,

grants registration to medical practitioners, and monitors medical practice in India.

#### Visionary Role of Medical Council of India

The Standing Committee on Health and Family Welfare (Chair: Mr. Ram Gopal Yadav) submitted its report on the Medical Council of India (MCI) on March 8, 2016. Key observations and recommendations of the Committee include:

Composition: Presently, the MCI is largely an elected body and contains only medical doctors. In light of issues arising due to the its elected nature (disproportionate private representation, etc.), the Committee recommended that a regulatory framework must be set up under which regulators are appointed through an independent selection process. Also, diversity in the composition of the MCI must be brought in, to include professionals other than medical doctors (such as public health experts, etc.). Presently, the Indian Medical Council Act, 1956 does not limit the reappointment of members of the council. The Committee suggested that the reappointment of members should be limited to two terms.

Establishment of colleges: The Committee observed that the present requirements for establishing a medical college are based only on physical space, infrastructure and rigid faculty requirement. The land requirement leads to high initial investment due to which the government and genuine parties (interested in providing medical education) cannot open colleges. The existing minimum standards are causing impediments in the establishment and expansion of medical colleges. It recommended that the requirements for physical infrastructure must be reduced accordingly.

Medical education: As the two stages of medical education (undergraduate and postgraduate) require different kinds of expertise, they should be regulated separately (through setting up of separate boards). Further, the Committee recommended that in order to tackle the issue of high capitation fees and to bring transparency, etc., the central government must introduce a common entrance exam for undergraduate, postgraduate and super speciality courses. To standardise the competencies etc. of graduating doctors, an exit test must be introduced for under and postgraduates.

Presently, there are two systems of post graduate certification, namely DNB (diploma) and MD/MS (master's degree). The Committee recommended that the current system of postgraduate admission must be restructured. One common entrance and exit test must be introduced for all candidates. The training and evaluation must be integrated into one national qualification. Till such time, DNB students should be given equal status as MD/MS, once they complete two years of teaching experience in a medical college.

Accreditation: The Committee observed that the functioning of the MCI leads to conflict of interest as it gives permission to establish medical colleges and also ensures quality of education. Therefore, an independent and autonomous accreditation body must be set up which will be responsible for ensuring the quality of education.

Professional conduct: The Committee observed that the present focus of the MCI is only on licensing of medical colleges. There is no emphasis given to the regulation of medical ethics. In light of this, the Committee recommended that the areas of medical education and medical practice

should be separated. A separate board of medical ethics should be set up which will be responsible for developing mechanisms for the promotion of medical ethics. Further, the government must establish a system of auditing medical practice.

Indian Medical Register: According to the Ministry the doctor-population ratio in India is 1:1674 as against the WHO norm of 1:1000. The Committee was of the view that this number may not be the correct estimate. Presently, the Indian Medical Register also contains the names of registered medical practitioners who are dead or retired from active practice. This hinders healthcare human resource planning. Therefore, the Committee recommended that the register should be maintained as a live database to provide a realistic assessment of number of practitioners.

Corruption: The Committee observed issues related to corruption in the MCI. Further, it noted that autonomy should be balanced with accountability. As MCI is funded by the government, therefore it should enforce accountability on the MCI. The Ministry should take measures to

amend the present statute or enact a new legislation which allows the government to intervene in matters of corruption.

#### Health Education Priorities in India

Health is state of complete physical, mental and social well-being, and not merely an absence of disease or informality. Indian Health and Physical education has three major dimensions – physical, mental and social.

#### 1. Physical health:

It implies bodily health. Body health is maintained, if all the internal systems are functioning properly. It implies good appetite, sound sleep, proper blood-pressure, good body movements etc.

#### 2. Mental health:

Mental health is related with physical health. That is why it is said, 'sound mind in a sound body'. A mentally healthy person feels satisfied with himself. He feels happy, calm and cheerful. He is well-adjusted. He does not get angry

easily. He accepts criticism and is not easily upset. He keeps patience, when he is confronted with difficult situations. He has control over emotions and feelings.

#### 3. Social health:

Social health refers to the abilities of the individual relating to socially considerate behaviour. A socially healthy person is expected to be cooperative, aware of his needs as well as the needs of the other members of the community. He finds satisfaction, success and happiness in discharging everyday tasks. He makes friendships that are satisfying and lasting. He assumes his own responsibilities in accordance with one's capacities.

#### Importance of Health and Physical Education

The Secondary Education Commission, 1952-53 recommended that –

1. Physical activities should be made to suit the individual and his capacity for physical endurance.

- 2. All teachers below the age of 40 should actively participate in the physical activities of the students.
- 3. Full records of the activities of the students should be maintained.
- 4. The training in Physical Education should be comprehensive.
- 5. Teachers of Physical Education should be associated with the teaching of subjects like physiology, hygiene and given the same status to other teachers of similar qualification.
- 6. Aids may be given to the training centres by the state and centre.

One of the most important suggestions made by a Committee set up by the Union Minister of Education on May 28th, 1959 under the chairmanship of Sri Hurdaynath Kunzru, M.P., is that at the school stage, there should be an integrated programme of physical education woven into the fabric of the educational system.

- 1. The physical education programme should be planned for desirable outcomes keeping in the mind the interest and capacity of the participants.
- 2. The programme should be within the financial means.

- 3. A sense of sharing responsibility in a spirit of democratic cooperation should grow from experience and play ground.
- 4. The programme should reach to all rather than a selected few.
- 5. Special instruction and coaching should be provided for students with talent and special aptitude.
- 6. The traditional forms of play, indigenous games and physical activities of our country should receive due emphasis in the programme. In the secondary stage, there should be provision for simple team- play and finer forms of skills.

They should be given sports and games in their standard from. Physical education for all stages should be planned separately keeping in mind their respective interest and abilities.

## National Policy on Education, 1986 has also recommended the following:

- 1. Sports and physical education are integral part of learning process.
- 2. There should be provision of play-fields, equipments, coaches and trained teachers.

- 3. Open spaces in urban areas should be reserved for playground by the legislation and at the same time hostel facilities should be provided for physical education programme.
- 4. Sports activities and sports-related studies should be given to the students by the trained Physical Education Teachers.
- 5. Efforts will be made to include' Yoga' in all schools.
- 6. Stress will be given on indigenous traditional games which promote integrated development of body and mind.

The main function of any subject in a school is to plan educational experience which will enrich the whole personality of the child with a special emphasis on the subject, medium of expression. The contribution made by physical activity will seem to be relevant and essential part of the school curriculum and important means for preparing child for the society in which they live.

#### What are muscle sprains and strains?

Sprains and strains are caused by accidents. Muscles need to be warmed up before exercise and work. A sprain is abnormal stretching or tearing of a ligament that supports a joint. A strain is abnormal stretching or tearing of a muscle or tendon. Sprains and strains may be caused by repetitive activities or by a single injury.

The diagnosis of a sprain or strain usually can be made after the health-care professional takes a history of the injury and performs a physical examination. Depending upon the situation, X-rays, a CT scan, or an MRI may be needed to help make or confirm the diagnosis. RICE (rest, ice, compression, and elevation) are the keys to initial treatment. Most sprains and strains resolve with time, but occasionally other treatments, including physical therapy and surgery, may be required. Anti-inflammatory medications may be helpful in decreasing the pain and inflammation of the injury.