INSTITUTE OF ACTUARIAL & QUANTITATIVE STUDIES

Class: FY BSc

Subject : Physical Education

Understanding the importance of physical education in daily life

Why Is Physical Activity Such a Big Deal?

Regular exercise and physical activity are important to the physical and mental health of almost everyone, including older adults. Being physically active can help you continue to do the things you enjoy and stay independent as you age.

Regular physical activity over long periods of time can produce long-term health benefits. That's why health experts say that older adults should be active every day to maintain their health.
In addition, regular exercise and physical activity can reduce the risk of developing some diseases and disabilities that develop as people grow older.

In some cases, exercise is an effective treatment for many chronic conditions. For example, studies show that people with arthritis, heart disease, or diabetes benefit from regular exercise. Exercise also helps people with high blood pressure, balance problems, or difficulty walking.

Difference between Physical Activity and Exercise

Both terms refer to the voluntary movements you do that burn calories. Physical activities are activities that get your body moving such as gardening, walking the dog, raking leaves, and taking the stairs instead of the elevator.
Exercise is a form of physical activity that is specifically planned, structured, and repetitive such as weight training, tai chi, or an aerobics class.

Benefits of Physical Activity

Exercise and physical activity benefit every area of your life. They can:

- Help maintain and improve your physical strength and fitness.
- Help improve your ability to do the things you want to do.
- Help improve your balance.
- Help manage and prevent diseases like diabetes, heart disease, breast and colon cancer, and osteoporosis.
- Help reduce feelings of depression, may improve mood and overall well-being, and may improve or maintain some aspects of cognitive function, such as your ability to shift quickly between tasks, plan an activity, and ignore irrelevant information.

As you've probably noticed, the key word is **you**. The benefits you gain from physical activity will depend on your starting point and how much effort you put into it. You'll need to match your physical activity to your own needs and abilities.
For example, some people can swim a mile without thinking twice about it. For others, a slow walk to the corner and back is a big achievement. Exercise and physical activity are good for just about everybody, and there are many activities to choose from.

What Kinds of Exercises and Physical Activities Improve Health and Physical Ability?

Exercises generally fall into four main categories: **endurance, strength, balance, and flexibility**. Though we describe them separately, some activities fit into several categories. For example, many endurance activities also help build strength, and strength exercises can help improve balance.

Endurance

Endurance, or aerobic, activities increase your breathing and heart rate. These activities help keep you healthy, improve your fitness, and help you do the tasks you need to do every day. Endurance exercises improve the health of your heart, lungs, and circulatory system. They also delay or prevent many diseases that are common in older adults such as diabetes, colon and breast cancers, heart disease, and others. Physical activities that build endurance include:

- Brisk walking
- Yard work (mowing, raking)
- Dancing
- Jogging
- Swimming
- Biking
- Climbing stairs or hills
- Playing tennis
- Playing basketball

Endurance

Strength
Even small increases in muscle strength can make a big difference in your ability to stay independent and carry out everyday activities such as climbing stairs and carrying groceries. Some people call using weight to improve your muscle strength "strength training" or "resistance training." Strength exercises include:
• Lifting weights
• Using a resistance band

Balance
Balance exercises help prevent falls, a common problem in older adults. Many lower-body strength exercises also will improve your balance. Exercises to improve your balance include:
• Standing on one foot
• Heel-to-toe walk
• Tai Chi

Flexibility
Stretching can help your body stay flexible and limber, which gives you more freedom of movement for your regular physical activity as well as for your everyday activities. To increase your flexibility, try:
• Shoulder and upper arm stretch
• Calf stretch
• Yoga

Three Keys to Success to help you get started and keep going

Here are three ways to approach exercise and physical activity.

1. Include Physical Activity in Your Everyday Life

Physical activity needs to be a regular, permanent habit to produce benefits. Again, the key word is you. Set yourself up to succeed right from the start by choosing activities that appeal to you, exercising safely, charting your progress to see your success, and making your activity routine fit your personal lifestyle. Here are a few ways to make physical activity a regular part of your daily life.

Make it a priority. Many of us lead busy lives, and it's easy to put physical activity at the bottom of the "to do" list. Remember, though, being active is one of the most important things you can do each day to maintain and improve your health. Make a point to include physical activities throughout your day. Try being active first thing in the morning before you get busy. Think of your time to exercise as a special appointment, and mark it on your calendar.

Make it easy. If it's difficult or costs too much, you probably won't be active. You are more likely to exercise if it's easy to do. Put your 2-pound weights next to your easy chair so you can do some lifting while you watch TV.

Three Keys to Success to help you get started and keep going

Walk the entire mall or every aisle of the grocery store when you go shopping. When you go out to get the mail, walk around the block. Join a gym or fitness center that's close to home. You can be active all at once, or break it up into smaller amounts throughout the day. Do more of the activities you already like and know how to do.

Make it social. Enlist a friend or family member. Many people agree that having an "exercise buddy" keeps them going. Take a yoga class with a neighbor. Take a walk during lunch with a co-worker.
Make it interesting and fun-hiking. Listen to music or a book on CD while walking, gardening, or raking. Plan a hiking trip at a nearby park.

Three Keys to Success to help you get started and keep going

2. Try All Four Types of Exercise

Most people tend to focus on one activity or type of exercise and think they're doing enough. The goal is to be creative and choose exercises from each of the four types we've talked about — endurance, strength, balance, and flexibility. Mixing it up will help you reap the benefits of each type of exercise, as well as reduce boredom and risk of injury.

Three Keys to Success to help you get started and keep going

3. Plan for Breaks in the Routine (Life Happens!)

Don't be too hard on yourself. Recognize that there will be times when you won't want to exercise, or it feels too hard. You are not alone; everyone has those feelings. Just try to get back to your activities as soon as possible. The sooner you resume some sort of activity, the better you'll feel, and the easier it will be to get back into your routine.

Think about the reasons you started exercising and the goals you set for yourself. Remembering your motivations and how much you've already accomplished may help recharge your batteries and get you started again.

Ask family and friends to help you get back on track. Sometimes, you may want an exercise buddy. At other times, all you may need is a word of support.

Try something easier or an activity you haven't done recently if you don't like the activity you started. You might even want to try something you've never done before. Mastering something simple or new may give you the confidence you need to resume a regular exercise program.

Three Keys to Success to help you get started and keep going

Believe in yourself! Feel confident that even if your activity is interrupted, you can start again and be successful. Don’t worry about the time you missed. What’s important is to focus on your fitness goals and start again at whatever level is possible for you.

Importance of Sports

Sports is a highly diversified social phenomenon, encompassing various forms of physical activity from high-level competition through school, club or community organized programmed to spontaneous and informal physical activity. Sports are played by players in their individual capacity, such as races, jumps, athletics, etc. Singer has defined, Sports as a 'human activity that involves specific administration, organization and an historical background of rules which define the object and limit the pattern of human behavior; it involves competition or challenge and a definite outcome primarily determined by physical skill".

Sports are no longer a matter of private interest of young man. They are encouraged and patronized by the government Games and sports have assumed international importance Every year sport competitions are held in different parts of the world. Participants from different countries take part in these international competitions. They compete with one another and earn fame and honors for themselves and their countries. That is why a good sportsman is a good ambassador of his country.

The sports persons are also called the ambassadors of peace, because they help in promoting the feelings of friendship and co-operation in the world. The nations that love to play together do not like to fight against each other. There are a wide variety of classification in the Sports world like Physical Sports. Air Sports. Mind Sports, Athletics, Snow Sports, Target Sports and other miscellaneous broader classifications.

Importance of Sports

Physical Sports include Archery, climbing. cycling, dance, golf, running, shooting, diving, weightlifting etc. Mind Sports include card games, strategy board games, competitive board games, etc., Air Sports include Aerobatics, Air racing, Gliding, Hang gliding. Para gliding. Parachuting etc. and many others like gymnastics, ice sports, rock climbing, motto racing, adventure sports.

C.B.S.E. and most other Boards of Education in many states have made the Sports Education a compulsory subject up to the +2 level. But the irony is that the subject has yet to get due seriousness and importance in practice. Sports give us opportunity to grow in life. These days sports have been commercialized. They have become a good means of earning. The sports person who does well in sports is showered with name, fame and wealth. He becomes a hero overnight.

Sports have great potential to offer career opportunities. So we should take them very seriously from the very early age of our life. Sports are good means of earnings. Sports offer opportunity to prove talents. Thus, sports have great value in life. Sports facilities are being developed in rural and semi-urban areas. There are playgrounds in villages. Sports infrastructure are being developed everywhere so as to promote them. Various sport organizations are also doing well in promotion of sports

Benefits of sports

According to Duderstadt, (2000) in theory at least, college sports provided an opportunity for teaching people about character, motivation, endurance, loyalty, and the attainment of one's personal best-all great qualities of great value in citizens.
Not only does it empower youth and promote higher self-esteem, it also motivates students, enables them to earn better grades, especially in schools where obtaining certain grades is a pre-requisite to staying on the team.
Numerous physical benefits include maintaining a healthy weight, preventing chronic diseases and learning the skills necessary to maintain a healthy lifestyle after graduating.

Sports keep us healthy and fit, they are a useful means of entertainment and physical activity. Help in character building, give us energy and strength and maintain mental balance in midst of hopes and despair

Sports are means of mental and physical growth. They make us learn how to tackle the difficult situation. Sports develop a sense of friendliness and team spirit within us. They help in developing mental and physical toughness. They shape our body and make it strong and active and remove tiredness and lethargy by improving the blood circulation. This improves our physical well-being. Sports improve our capability and efficiency. Either study or work alone makes us exhaust. We remain no longer efficient to do any work. Sports remove our mental exhaustion.

Conclusion

- It has been said that sound mind dwells only in a sound body. And a healthy and strong body is not possible without sports. The development of body is very essential in life. All our physical and mental enjoyments depend upon our body. All our degrees and achievements will be of no use without a good physique and healthy personality
- A strong and healthy student who is good and alert at studies in the long run, surpass the pale, weak, scholar who is merely a bookworm. The students who are good Sportsman are given extra weight age at the time of admission to different courses and selection through interviews in the job, Sports are good for career development also, as those who perform and win at national and international level are honored with several prizes and awards, can well and acquire name and fame across their country and the whole world.

History, Principles & Foundation of Physical education

- The brief history of physical education would start in just about 1820 when schools focused on gymnastics, hygiene training and care and development of the human body. By the year 1950, over 400 institutes had introduced majors in physical education. The Young Men's Christian Association launched its very first chapter in 1851 and focused on physical activities. Colleges were encouraged to focus on intramural sports particularly track, field and football. But physical education became a formal requirement following the civil war when many states opted to pass laws that required schools to incorporate a substantial physical education component into their curriculums. But it was not till 1970 that an amendment was made to the Federal Education Act that allowed women from high school and college to compete in athletic competitions. Sex-based discrimination was completely outlawed from government funded programs at this point.

- Decline in Physical Education But this is not meant to imply that the history of physical education has been all rosy. Late in the twentieth century there was certainly a decline in the commitment to physical education. The growing offering of extra subjects and electives in schools means that the shift was focusing away from physical education and towards academics. The country also faced a recession around 1970 and 1980 and the dearth of government funding means that physical education programs were often the first to be cut from schools and universities.

History, Principles & Foundation of Physical education

- In a broader context, physical education is defined as a process of learning through physical activities designed to improve physical fitness, develop motor skills, knowledge and behavior of healthy and active living, sportsmanship, and emotional intelligence. Thus, Physical Education is not only aimed at physical development but also includes the development of the individual as a whole.

Fundamental movement skills

Fundamental movement skills are movement patterns that involve various body parts and provide the basis of physical literacy. Fundamental movement skills are the foundational movements, or precursor patterns, to the more specialized and complex skills used in play, games and specific sports. Physical literacy describes the ability of a person to instruct the body to perform an action accurately and with confidence and to recognize the physical, social, cognitive and emotional attributes required to do so effectively. Gymnastics-like activities promote the development of all movement patterns.

Fundamental movement skills can be categorised into three groups: body management skills, locomotor skills and object control skills.

Fundamental movement skills

1. Body Management Skills
Body management skills involve balancing the body in stillness and in motion. Examples are static and dynamic balancing, rolling, landing, bending and stretching, twisting and turning, swinging, and climbing.

2. Locomotor Skills
Locomotor skills involve transporting the body in any direction from one point to another. Examples are crawling, walking, running, hopping, leaping, jumping, galloping, skipping and swimming.

3. Object Control Skills
Object control skills require controlling implements and objects such as balls, hoops, bats and ribbons by hand, by foot or with any other part of the body. Examples are throwing, catching, kicking, striking, bouncing and dribbling. The use of hand apparatus to promote object control skills

Motor learning and skill acquisition

Motor learning is a complex process occurring in the brain in response to practice or experience of a certain skill resulting in changes in the central nervous system. It allows for the production of a new motor skill. It often involves improving the smoothness and accuracy of movements and is necessary for developing controlled movement and calibrating simple movements like reflexes.

Motor learning research considers variables that contribute to motor program formation (i.e., underlying skilled motor behaviour), the sensitivity of error-detection processes, and strength of movement schemas. Motor learning requires practice, feedback and knowledge of results

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Stages of motor learning theory - Fitts and Posner's 3 stage theory

Cognitive stage

- Understand the nature of the task
- Developing strategies used to carry out the task {a variety of strategies are tried in this stage}
- Determining how the task should be evaluated
- High degree of cognitive activity is required
- Improvement is very large
- Movements are slow, inconsistent and inefficient.

Stages of motor learning theory -Fitts and Posner's 3 stage theory

Associative stage

- Person has selected best strategy
- Has to begun refine skill
- Less variability in performance
- Improvement occurs slowly
- Verbal/cognitive aspects not so important
- Lasts from weeks to months
- Movements are more fluid, reliable and efficient
- Some parts of the movements are controlled consciously, some automatically.

Stages of motor learning theory -Fitts and Posner's 3 stage theory

Autonomous stage

- Automaticity of the skill
- Low degree of attention
- Devotes its attention to other aspect of the skill in general
- Movements are accurate, consistent and efficient.
- Practise sessions are more results orientated
- Focus is on greater range of movement, speed, acceleration and use of skill in a novel situation.

Techniques and tactics in sports

All sports require some form of technical ability, and in order to use these technical abilities and be able to perform, tactics are required. The performer of a sport should be aware of both the technical and tactical requirements. Some skills can be general and can be used across all sports; these include running, jumping, throwing and catching. Other skills are specific to only a few sports, or even just one sport

T

actics are actions and strategies planned to achieve an overall objective – in sport that objective is predominantly to win. Tactics can depend on a number of factors such as opposition, players available for selection, the importance of the game/match and possibly even weather.

Even the greatest players in the world must have tactical awareness and consider such factors. As learners develop their sporting capabilities, it is important that they continually assess the ways in which they as individuals and within teams can improve. Elite sports performers work constantly to stay on top of their game and this is often done with the help of coaches and technological aids.

Learners will then consider their own abilities in competitive situations and over a period of time. Finally, learners will consider their development, technically and tactically, producing a plan to help them optimise their own sports performance in a selected sport.

Principles of coaching

Philosophy & coaching

- To be a coach is both an honor and privilege. Athletes meet sport at the place where the coach presents it to them. The coach can be the architect and definer of an athlete's sport experience. To be a successful coach, you have to be well prepared to provide exciting, positive, enriching, encouraging and meaningful experiences to athletes.
- Effective coaching involves developing motor abilities, cognitive abilities, and psychological abilities to build the total athlete
- Coaches transmit knowledge, facilitate learning, help problem solve, and teach decision-making strategies to athletes.
- Coaches have effective communication skills to instruct learners based on scientific principles and theories.
- The best coaches are familiar with how athletes learn, process, and react to information.
- Your coaching philosophy will determine decisions regarding the team atmosphere, training objectives, performance expectations, social interactions, rules, and even disciplinary actions. A coaching philosophy encompasses the program's belief system, expectations, and goals based in part on scientific facts, research, and evidence. In addition, your experience is an invaluable part of your coaching philosophy

Principles of coaching

- Coaches should focus on the long-term character and physical development of the individual, not only as an athlete but as a successful adult. Coaches and athletes benefit from focusing on developing the total person, athletically, personally, and socially.
- Coaches need to focus on the long-term development of the athlete versus just winning. It is crucial to develop the total person in athletics; it will lead to better performances, promote positive relationships with peers and coaches, and build the foundation for success later in life.

Principles of coaching

Coaching Roles

- Coaches need to be friendly with their student-athletes but not cross the line to friendship; coaches need to be coaches, not friends with an athlete. In many ways, this mirrors a parenting relationship. Thompson (2009) states, “You will need to develop a caring and continuing relationship with the athletes you coach” (p. 5).
- Children do not thrive when parents act as friends. Children need parents to set limits and model socially acceptable behavior. This is also true for coaching; athletes need you as a coach, not a friend.
- On the field, coaches help athletes by imparting knowledge to improve athletic skills and performance. Coaches lead and direct training sessions to create a safe and positive learning environment. Coaches observe, provide feedback, and create improvement strategies for athletes.
- Off the field, coaches deal with administrative duties such as facility management, budget, team travel, equipment needs, practice outlines, recruiting, community outreach, and fundraising.
- In addition to the on- and off-the-field roles coaches play, they provide a support system for athletes. Coaches help athletes stay focused on athletic achievement as well as offering support with academic and personal issues. Coaches need communication and social skills to build relationships and support the athlete’s mental and emotional abilities. All these roles are entwined and overlap during virtually every coaching interaction.

Principles of coaching

Coaching Environment

- A coach must establish a practice environment that promotes healthy physical and psychological development. The coach sets the tone for practice with high expectations and challenging but achievable objectives accomplished by high effort.

Safety and Risk

- Coaches are responsible for ensuring the effective use and maintenance of the facilities and providing a safe environment. The equipment should be appropriately maintained and in good repair. Coaches are responsible for making athletes aware of potential dangers and hazards during practice and competitions. Also, education in basic first aid and injury treatment in case of emergencies is necessary for coaches.
- Strategies for coping with extreme weather must be in place. Evacuation plans for lightning, tornados or other circumstances must be discussed at the start of the season and reviewed when poor conditions are forecasted.

Training methods and periodization

Periodization training definition

- Periodization training is an approach in which you plan out workouts and recovery intervals over an extended period (the clue's in the name) with the intention of meeting defined, long-term training objectives.
- To reach those targets, you'll chunk the types and intensities of the exercises into meaningful time blocks called cycles, which often last several weeks or months. You or your trainer switches up one or more training variables for each period — like resistance, duration, or pace.
- This helps keep the workout fresh and challenging for your body.
- Each block aims to hit target milestones that, combined over time, help you achieve your wider training goals. Periodization training plans can even zoom in as far as mapping out the specific routines you'll follow in each gym session
- You can apply periodization to aerobic and nonaerobic training. Athletes use it for both cardio and strength regimens.

What is periodization training?

This fitness formula prescribes and plans periodic changes to your fitness regimen. The goal is to switch things up from time to time, which can help you optimize your training outcomes.
People usually approach periodized training in three parts:

•**Microcycles -** Often a week long, these are the smallest elements of the periodization program. Microcycles let you break your medium- and long-term fitness goals into manageable chunks.
•**Mesocycles -** These combine several microcycles for a medium-term view of approaching fitness or sports goals. There will be more variation in workout type and intensity within a mesocycle.
•**Macrocycles -** This is the extended and complete view of your goal — usually in terms of a 1- to 4-year buildup to a competition like the Olympics or World Cup.
Depending on the length of a cycle, you'll spend a certain amount of time working through "phases," or different levels of intensity. These include (from lowest intensity to highest):
•base phase
•build phase
•peak phase
•taper phase
•competition phase
Full periodization training is hard to stick to, but there are benefits everyone can carry over into their workout regimen.

Injury prevention and first aid in sports

Physical activity and sports participation is encouraged by all health care professionals as it has numerous positive effects on a person's health. There is however, the significant burden of sport-related musculoskeletal injury, with the greatest risk being in the youth and young adult populations. It is vital to incorporate primary injury prevention and make this a public health priority as this will have significant implications for reducing long-term consequences of musculoskeletal injuries, such as early post-traumatic osteoarthritis.

A sports injury is any common injury suffered while participating in sports, exercise or work. Most sports injuries are due to either trauma or overuse of muscles, ligaments, tendons or bones. Common injuries include:

- Sprains
- Strains
- Bone fractures
- Ligament damage
- Dislocations
- Concussions

Injury prevention and first aid in sports

How Can Sports Injuries Be Prevented?
Most sports injuries are caused by improper or poor training techniques, using improper sports equipment or improper stretching and warm up practices. Luckily, measures can be taken to help prevent injuries.

Warming Up and Cooling Down
A common cause of injury is jumping right into high impact or rigorous exercise without warming the body up first. Warming up usually involves stretching and light exercise to gradually raise your heart rate and increase muscle and joint usage. Light cardio exercises with very small increases in impact or weight load has been shown to be the safest method.

Using Proper Technique
Learning to use the correct and safest maneuvers for whichever sport or activity you are participating in is crucial for the avoidance of sports injuries. Different sports and exercises use very specific stances or postures, so learning them and using them can prevent many different types of injuries. This is especially true for weight training where improper technique is a common cause for injury.

Injury prevention and first aid in sports

Using Protective Equipment

- Many team sports have made the use of protective gear mandatory, which is a good start, but further protective measures should be taken as well. In addition to always wearing a helmet for contact or action sports, other protective gear should be used. This can include knee and elbow pads, spine protection, protective eyewear, wrestlers ear protection, mouth guards and protective clothing and footwear.
- Using Proper and Well-Fitting Sports Equipment
- Wearing and using equipment that is well-fitting and appropriate for a specific sport is another way to avoid an unnecessary injury. Borrowing equipment from a friend and family member that doesn't quite fit is a common cause for injury. Using the wrong size or weight of equipment can also lead to injury—for example riding a bike that is too big or lifting weight above your strength level. Coaches can work with parents to advise proper use of equipment used for youth sports.

Injury prevention and first aid in sports

Getting Plenty of Rest and Sleep

- Participating in sports and exercise can be fun and surprisingly addictive. At times it is easy to get over-excited and want to exercise or play a sport before the body has had time to rest and recuperate. For strenuous exercise, muscles and joints may need 24 to 48 hours to fully recover. Properly resting and using cold or warm compression on sore areas can be an extremely effective way to prevent injury.
- For sports that use repetitive motion, like baseball or tennis, the body is under increased strain. This can lead to problems with joints and tendons, so a conservative rest practice is very important. Alternating the exercise of different muscle groups or only exercising every other day is a good method.
- Sports injuries can also be prevented by getting enough sleep at night is important to any healthy lifestyle but is of heightened importance for people who are very active. Fatigue is a very common cause of injury and sleep deprivation will exacerbate muscle fatigue. It is a major factor in chronic pain. It can also impair performance so getting enough rest will not only lower risk for injury but also boost performance.

First aid

For one, it's important to make sure athletes are in proper condition before they head out to the field. Make sure they're physically and mentally fit for the field. An athlete who's distracted, or has an existing injury that could be made worse shouldn't play. Also, don't forget to hydrate! Dehydration can be dangerous and lead to heat stroke in warm weather, among other things, in addition to lowering the athlete's ability to perform. Sometimes cold, running water isn't available depending on where you're training or performing, and athletes don't always bring enough of their own. It's good to bring extra just in case, and allow athletes plenty of water breaks.

You must also assess the safety of the environment the athletes will be using. This includes making sure that any equipment is sound, and making any other considerations that might be necessary. Is the location indoors, or outdoors? Is the floor wet or slippery? Are there any divots or uneven surfaces that athletes could trip and injure themselves on? And if something happened, where is the first aid kit?

On that note, most sports leagues require coaches to be certified in CPR and first aid. There should always be at least one person with this training at every game, practice or team event. A first aid kit and an automated external defibrillator (AED) {machine for heart} must also be available in case of an emergency.

First aid

What Supplies Do You Need for a Sports First Aid Kit?
So obviously, a sports first aid kit is a must. But you might be wondering about the individual supplies that go into the kit. Not all first aid kits are the same. Whether you're buying one or putting one together yourself, there are a number of important items a sports first aid kit should have. Here is a sports first aid kit contents list.

First aid

Essential items

Emergency cards for each athlete. These are especially important if you're a coach in charge of children. Each emergency card should contain emergency contact info, as well as all relevant medical information including medical conditions, medications and allergies.

- A CPR mask
- Exam/surgical gloves
- Safety pins
- Disposable instant cold packs
- Splints
- Triangular bandages
- Elastic bandages in multiple sizes
- Wound Care Items
- Sterile gauze pads
- Roll gauze
- Antibiotic ointment
- Antiseptic solution
- Adhesive bandages

First aid

- Wound pads
- Alcohol wipes
- Cotton swabs (Q-tips]
- Ointments and Solutions
- Hand sanitizer
- Petroleum jelly
- Sterile eyewash
- Instruments & Tools
- Bandage scissors
- Hand mirror
- Tweezers
- Tape, tape underwrap, and tape adherent
- Sunscreen
- Resealable bags
- Contact lens case

Lifetime fitness & wellness

Lifelong Fitness and Wellness is intended to help students evaluate their personal health habits, behaviors, and attitudes, while educating them about how to establish or maintain healthy lifestyle practices to improve both quality and quantity of life.
Although some health benefits seem to begin with as little as 60 minutes (1 hour) a week, research shows that a total amount of 150 minutes (2 hours and 30 minutes) a week of moderate-intensity aerobic activity, such as brisk walking, consistently reduces the risk of many chronic diseases and other adverse health outcomes.

Stress management & relaxation technique

1. **Breath focus**. In this simple, powerful technique, you take long, slow, deep breaths (also known as abdominal or belly breathing). As you breathe, you gently disengage your mind from distracting thoughts and sensations. Breath focus can be especially helpful for people with eating disorders to help them focus on their bodies in a more positive way. However, this technique may not be appropriate for those with health problems that make breathing difficult, such as respiratory ailments or heart failure.

2. **Body scan.** This technique blends breath focus with progressive muscle relaxation. After a few minutes of deep breathing, you focus on one part of the body or group of muscles at a time and mentally releasing any physical tension you feel there. A body scan can help boost your awareness of the mind-body connection. If you have had a recent surgery that affects your body image or other difficulties with body image, this technique may be less helpful for you.

3. **Guided imagery**. For this technique, you conjure up soothing scenes, places, or experiences in your mind to help you relax and focus. You can find free apps and online recordings of calming scenes—just make sure to choose imagery you find soothing and that has personal significance. Guided imagery may help you reinforce a positive vision of yourself, but it can be difficult for those who have intrusive thoughts or find it hard to conjure up mental images.

Stress management & relaxation technique

4. **Mindfulness meditation.** This practice involves sitting comfortably, focusing on your breathing, and bringing your mind's attention to the present moment without drifting into concerns about the past or the future. This form of meditation has enjoyed increasing popularity in recent years. Research suggests it may be helpful for people with anxiety, depression, and pain.

5. **Yoga**. These three ancient arts combine rhythmic breathing with a series of postures or flowing movements. The physical aspects of these practices offer a mental focus that can help distract you from racing thoughts. They can also enhance your flexibility and balance. But if you are not normally active, have health problems, or a painful or disabling condition, these relaxation techniques might be too challenging. Check with your doctor before starting them.

6. **Repetitive prayer**. For this technique, you silently repeat a short prayer or phrase from a prayer while practicing breath focus. This method may be especially appealing if religion or spirituality is meaningful to you.
Others-Aromatherapy, massage, music & art

Stress management & relaxation technique

Hands and arms – Clench your fits, and tense your arms; feel tightness in your hands and arms, hold for 5 seconds then slowly relax them. Release and relax each muscle group for 10 to 15 seconds. See how far they will go, but do not push. Do not hold on at all; let everything go.
Breath – Slow and steady, let yourself relax each time you breathe out.
Shoulders – Hunch your shoulders, and then gradually let them settle down
Forehead – Pull your eyebrows together, then gradually let your forehead smooth out.
Jaw – Bite your back teeth together, then gradually ease off, and let your jaw get heavy.
Neck – Pull your chin forward on to your chest, feel tightness, then relax.
Tummy – Pull in your tummy tight, then gradually let it go, feeling it relax.
Thighs – Push your heels down hard against the floor, feeling the tightness in your thighs, and then gradually let that go.
Calves – Point your toes, then gradually let that tightness go.

Nutrition & hydration for physical activity

Eating a healthy, balanced diet plays an essential role in maintaining a healthy weight, which is an important part of overall good health.
Good nutrition and hydration are essential to help you perform at your best when exercising. For anyone who will be exercising for an extended period, it is important to plan what you eat and drink before, during and after exercise. This is especially important for anyone involved in sport where optimal nutrition and hydration can make a significant difference to your performance. For anyone participating in exercise at a more moderate level, a healthy diet that includes plenty of fruit, vegetables and water will usually suffice.

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Fuel for exercise

- The body's main sources of fuel during exercise are fat and carbohydrate, and the one you need to focus on is carbohydrate. This is because we all have ample stores of fat to undertake even the longest bouts of exercise (unless in a state of starvation). However, our carbohydrate stores (in the form of muscle glycogen) are more limited and can become significantly depleted during vigorous exercise in excess of 90 minutes or moderate exercise of a longer duration (several hours).
- Carbohydrate stores can also become depleted over the course of several exercise sessions, if not replenished through appropriate nutrition between times. Depleted muscle glycogen will impair your capacity to exercise, limiting how fast you can run, cycle or swim. This is clearly evident in some people at the end of a marathon, in which their muscles have become depleted of glycogen and they struggle to maintain a speed faster than a slow jog.

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Fluid for exercise

- Maintaining your body in a fully hydrated state is essential for both your health and performance when exercising. If you are dehydrated you will have a reduced blood volume and less fluid available to form sweat. Dehydration will reduce your capacity to deliver oxygen to your muscles and your ability to prevent your body from overheating, both of which will adversely affect your exercise performance. So it's important to be fully hydrated when you start exercising, and to maintain a regular intake of fluids while exercising to prevent dehydration.

Nutrition & hydration for physical activity

Food and fluid before exercise

- In most circumstances, most of us will have enough stored fat and carbohydrate to fuel our next exercise session without needing to make special arrangements (as exemplified by those who walk or jog before breakfast). However, if you are undertaking a more prolonged or vigorous bout of exercise, you may wish to maximise your glycogen stores before you exercise, and you can do this by eating a meal between one and 4 hours beforehand. This allows enough time for the meal to be digested. Ideally, you should eat a small amount of food that is low in fibre for easy digestion.
- To increase your body's fuel supply, the meal should be predominantly carbohydrate — approximately 2 to 5 grams of carbohydrate per kilogram of bodyweight. Meals based around rice, pasta, bread or potatoes are often advocated by sports dietitians, and you'll need to try different ones to see what suits you best. The meal should also be low in fat and protein, to minimise any gastrointestinal discomfort.
- For most sports and types of exercise, it is recommended that you drink 400-600 mL of fluid one to 2 hours before the activity, and another 200-400 mL 15 minutes before exercising. Water is usually a suitable choice of fluid to drink before exercising.

Nutrition & hydration for physical activity

Food and fluid during exercise

- Fluid loss can impair performance and can affect your body's ability to control its own temperature. If you are exercising for less than 60 minutes, you should drink approximately 200 mL of fluid every 15-20 minutes. Water is appropriate in this situation. In longer duration activities where there is a risk of glycogen depletion, such as more than 60 minutes of vigorous exercise, a sports drink containing glucose and electrolytes can be most effective. And for activities lasting several hours these sports drinks can be supplemented with energy bars.

Nutrition & hydration for physical activity

Post-exercise food and fluid

- After exercise it is important to restore your body's fuel and fluid stores to normal levels. For most people this is easily achieved by following a healthy diet that includes plenty of fruit and vegetables, and plenty of non-alcoholic, non-caffeinated fluids.
- Replacing fluid stores largely depends on how much fluid was lost during exercise. This can be calculated by comparing your pre- and post-exercise bodyweight. A simpler method is to check your urine. You need to drink sufficient fluid until you are passing clear, dilute urine.
- The amount of fluid that you'll need to drink will depend upon how much you've sweated and the temperature of the environment. So on hot days after a vigorous bout of exercise, you may need to drink several litres. In doing so, be wary of consuming it in the form of sugary drinks, as you may take in more calories than you've burned off during the exercise. This may not be a problem if you are a highly trained sports person with a good body composition, but will be contrary to your goals if you are trying to lose weight.
- To replenish your glycogen stores after exercising vigorously, you need to eat 1-1.5 grams of carbohydrate per kilogram of bodyweight within the first couple of hours after exercise. Ideally, this should be in the form of high GI foods, such as sports drinks, muffins or white bread. Over the 24 hours after exercise, a total of 7 to 10 grams of carbohydrate per kilogram of bodyweight should be ingested to maximise the glycogen stores again, thereby preparing you for your next bout of exercise.

Body composition & weight management

What Is Body Composition?

Body composition is the term used in the fitness and health community to refer to the percentage of fat, water, bone, muscle, skin, and other lean tissues that make up the body.
While checking your weight on the scale can be helpful for seeing your total weight, it doesn't tell you the composition of your body.
Typically, people break body composition into two groups: fat mass and fat-free mass. Fat mass is the amount of body fat. Fat-free mass is all the lean tissues in your body like muscles, organs, bone, water, etc.

Body composition & weight management

How Is Body Mass Index Different?

Body mass Index (BMI) is another popular term used in the medical and health community to describe body measurements.
Body composition is different from body mass index because BMI focuses on how your whole-body weight compares to your height. BMI is calculated by taking total body mass in kilograms (kg) and dividing it by height in meters (m) squared. The results are written with unit kg/m2.
The number is then put into a chart to find the category. The BMI categories include:
•BMI less than 18.5 = Underweight
•BMI 18.5 to 24.9 = Normal
•BMI 25 to 29.9 = Overweight
•BMI 30 to 34.9 = Obese class I
•BMI 35 to 39.9 = Obese class II
•BMI more than 40 = Obese class III
The problem with BMI is it doesn't accurately show your body composition. Many athletic people with high muscle mass and low body fat percentage may fall into the overweight or obese categories. But that doesn't mean they have the same health risk factors as someone with the same BMI and a high body fat percentage.

Body composition & weight management

Why Body Composition Is Important?

Body composition and body fat percentage may better predict health risks than simple obesity classification based on BMI. A healthier body composition is a higher percentage of lean tissue and a lower percentage of body fat.

Body composition is important because it can give you a better idea of your health risk, especially if you fall in the overweight or obesity category for BMI because you have more muscle and lean tissue.
While weight loss and watching the number on the scale can help, it doesn't tell you whether you're losing body fat or muscle mass.

How to Improve Body Composition and manage weight

The best way to improve your body composition is to make healthy changes, like:

1. **Dietary Changes**

Eating a diet full of highly processed foods that provide large amounts of sugar and fat is associated with gaining weight and body fat.6 To improve your body composition, you'll have to focus on healthy diet changes.
Try to be mindful of how much you're eating and aim to fill your plate with mostly:7
Vegetables
Fruit
Whole grains
Lean proteins
Healthy fats

How to Improve Body Composition and manage weight

2. Physical Activity

Moving more and exercising regularly helps improve body composition.
Research shows all types of exercise programs helped improve the body composition of people who were sedentary. The results showed strength training programs that develop the whole body had the biggest impact on body composition and improving bone density.8
Here are some tips to help you increase your physical activity
Try group fitness classes.
Find a type of exercise you enjoy.
Meet with friends to exercise.
Find an accountability partner.
Hire a trainer.
Walk during part of your lunch break.
Take the stairs.

How to Improve Body Composition and manage weight

3. Sleep Quality

The amount of time you sleep and your sleep quality can greatly impact your body composition.
A 2018 study found poor sleep quality was associated with:9
Lower bone mineral density
Lower muscle mass
Higher body fat mass
So, if you're looking to improve your body composition, you may want to place a higher priority on sleep.
Here are some tips to help increase your sleep quality:
Have a consistent bedtime routine, including going to bed and waking up at the same time daily.
Sleep in a cool, dark, quiet environment.
If you need background noise, use a fan or noise machine for a consistent sound.
Avoid caffeine and alcohol before bed.
Exercise regularly.

How to Improve Body Composition and manage weight

4. Lifestyle Changes

In addition to the above lifestyle changes, other changes that may help your body composition include:
Managing your stress levels.
Limiting the amount of alcohol you drink.
Prioritizing your mental health.

Mental & emotional health in PE

Regular exercise has also been linked with these emotional responses:

- Better behavior and less acting out
- Improved self-esteem
- Improved sleep
- More confidence
- Reduced stress, anxiety and depression
- Stronger thinking skills

Social aspects in PE/health

- Working out or doing physical activity in a group setting can provide additional benefits.
- Group dynamics create support among those who work out together, and they help each other to push through until the end.
- This also helps keep everyone motivated to do his or her best and not give up. Group activities keep healthy competition alive. People compete with each other to finish first or last longer. Participating in different group activities can create a great place for networking and meeting new people.
- This also helps keep exercising more exciting and fun. Accountability is an important factor, because of the social pressures; working out with groups keeps you more accountable for showing up and exercising. This helps keep you consistent. Lastly, it can reduce the cost because it is spread out among the group.

Cultural aspects in PE/health

Culture is all the traditions, values, and a number of other behaviours, including traditional foods or social activities. Culture is passed down by the immediate and wider family. A sense of connection and belonging to your culture can have a positive influence on health, especially improving the social dimension of health.
Many cultures have traditional meals which can affect health. The Mediterranean cultures have a diet high in healthy fats and vegetables leading to lower rates of cardiovascular disease. They also have a high value for family, and community increasing social health. The Japanese have very low intakes of meat and high intake of fresh vegetables, which both positively impact health.
Each culture also has their preferred method of treating illness and fixing the body. Traditional Chinese Medicine for example uses herbs, and acupuncture as their main medicinal treatments, while many western countries such as Australia and America utilise the pharmacological (drug) method.

Ethics in sports

A more ethical approach to athletics is sportsmanship. Under a sportsmanship model, healthy competition is seen as a means of cultivating personal honor, virtue, and character. It contributes to a community of respect and trust between competitors and in society. The goal in sportsmanship is not simply to win, but to pursue victory with honor by giving one's best effort.
Ethics in sport requires four key virtues: fairness, integrity, responsibility, and respect.

Ethics in sports

Fairness

- All athletes and coaches must follow established rules and guidelines of their respective sport.
- Teams that seek an unfair competitive advantage over their opponent create an uneven playing field which violates the integrity of the sport.
- Athletes and coaches are not discriminated against or excluded from participating in a sport based on their race, gender, or sexual orientation.
- Referees must apply the rules equally to both teams and cannot show bias or personal interest in the outcome.

Integrity

- Similar to fairness, in that any athlete who seeks to gain an advantage over his or her opponent by means of a skill that the game itself was not designed to test demonstrates a lack of personal integrity and violates the integrity of the game. For example, when a player fakes being injured or fouled in soccer, he or she is not acting in a sportsmanlike manner because the game of soccer is not designed to measure an athlete's ability to flop. Faking is a way of intentionally deceiving an official into making a bad call, which only hurts the credibility of the officiating and ultimately undermines the integrity of the game.

Ethics in sports

Responsibility

- To be sportsmanlike requires players and coaches to take responsibility for their performance, as well as their actions on the field. This includes their emotions.
- Many times athletes and coaches will make excuses as to why they lost the game. The most popular excuse is to blame the officiating. The honorable thing to do instead is to focus only on the aspects of the game that you can control, i.e. your performance, and to question yourself about where you could have done better.
- Responsibility requires that players and coaches be up to date on the rules and regulations governing their sport.
- Responsibility demands that players and coaches conduct themselves in an honorable way off the field, as well as on it.

Respect

- All athletes should show respect for teammates, opponents, coaches, and officials.
- All coaches should show respect for their players, opponents, and officials.
- All fans, especially parents, should show respect for other fans, as well as both teams and officials.
- The sportsmanship model is built on the idea that sport both demonstrates and encourages character development, which then influences the moral character of the broader community. How we each compete in sports can have an effect on our personal moral and ethical behavior outside of the competition.