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COURSE TITLE:

SKILLS DEVELOPMENT & TECHNIQUES IN SPORTS AND GAMES VI (SWIMMING)

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COURSE GUIDE – KHE 331 (SWIMMING)

Swimming is a sport followed with passion in many different parts of the world. It is one of the most popular sports in the world as an all-round body developer. Swimming is an individual or team racing sport that requires the use of one's entire body to move through water. The sport takes place in pools or open water. Swimming could be conducted as a recreational activity or competitive sport. The propulsion of the body through water with combinations of both the arms and legs in synchronized motions and the natural buoyancy of the body is a necessity for success in swimming.

In effect, Swimming is a water-based sports, it is an all-round body developer and is often employed for therapeutic purposes and as rehabilitative exercise for strength development in physically handicapped persons. It is also taught for lifesaving purposes.

Michael Phelps of USA.

INTRODUCTION

Swimming is a water racing sport with many events for both individual and team. It requires movement of the body through water using the arms and legs. Skills acquisition and practice obtained in swimming as a sport automatically gives participants a very unique value with fun filled experiences of amusements, exercise and entertainment.

The health benefits of Swimming:

i. Builds cardio-respiratory endurance, muscle strength and an improved blood circulatory system.
ii. Swimming helps at maintaining a healthy body weight, and higher levels of kinesthetic awareness.
iii. Keeps heart rate up but takes some of the impact of stress off the body.
iv. As a gross motor activity, it tones the skeletal muscles and facilitates physical balance.

Technological developments in the recent times have reduced the physical demands of daily activities like walking, doing chores such as cleaning, washing,

gardening and walking to work place and climbing the stairs. Automations has made more time available for leisure pursuits. Unfortunately, most of the newfound leisure time is used for sedentary pursuits, whereas, human body is designed for strenuous physical activity. This has resulted in the decline of functional ability of the human body. Exercise scientists and health professionals strongly believe that this increased physical inactivity has led to a rise in the incidence of several degenerative disorders like coronary heart diseases, diabetes, hypertension, obesity and overweight, osteoporosis, osteoarthritis, and some forms of cancer, like breast cancer and colon cancer. This trend in the deterioration of health and increase in the prevalence of these diseases can be arrested or at least minimized if people invest at least 30 minutes, three times a week, in moderate-to-vigorous physical activity.

OBJECTIVES

It is important to note that each course has specific objectives. Students should study them carefully before proceeding to subsequent sessions. Therefore, it is advised that frequent reference is made to course objectives in order to assess study progress. You should always look at the unit objectives after completing a session. In this way, you can be sure that you have done what is required of you by the end of the study session. However, students, at the end of this course, are expected to understand the following concepts in Swimming as the course is designed to provide students with the necessary teaching skills and practice in the performance of Swimming:

i. Historical Foundations and Information in Swimming.
ii. Rules governing Swimming.
iii. The Nature of the Sports.
iv. Introducing Swimming to Beginners.
v. Prospects and Carrier Opportunities in Swimming.

vi. Facilities and Equipment in Swimming.

vii. Safety Rules for preventing Infections and Diseases in Swimming.

viii. Safety Rules for preventing Accidents by the participants in Swimming.

ix. Basic Skills and Techniques in performance in Swimming.

x. Maintenance of the Swimming Pool.

Historical Foundations Perspectives and Information in Swimming:

Swimming as a competitive sport is the act of propelling the body through water with arm and leg motion without artificial aid. It is one of the world's most popular recreation. Man probably learnt to swim by watching animals in the water. Ancient monuments and records uncovered by Archaeologists depict him moving along or beneath the water. Swimming at first was not a sport but a life saver and part of warfare. The Old Testament mentions swimming. Greek and roman warriors were taught swimming as part of their training.

The first book on swimming is attributed to a German professor of languages, Nicolaus Wynman, who published it in dialogue form. He called it, The Diver or a Dialogue concerning the art of swimming, both pleasant and joyful to read. More humble and scientific was a treatise produced in 1696 by a Frenchmen, M. Thevenot called simply , The art of swimming. however, the first authentic book on swimming in England stems from Everard Digby, a master of Arts at Cambridge University. Written in 1587, in Latin, it contained a weird assortment of wood-cuts. In 1595 it was translated into English, and its popularity was such that numerous writers copied it almost literally. Europe's Dark Ages took the joy out of aquatic sport. Sport generally, was discredited and anything pertaining to the body held in contempt. Ordinary people began to shun outdoor bathing for fear of catching a fatal sickness as there was a general belief that all deceases were spread by water. Only the nineteenth century

saw a revival of aquatic sports. The opening of the first swimming baths at Liverpool in 1828 was soon emulated elsewhere.

In 1860s swimming clubs were established, the serpentine club claiming to be the oldest. Soon inter- club competitions followed. In 1869 the Metropolitan Swimming Association was formed. It changed its name later to the London swimming association. In 1875, Capt. Mathew Webb of England became the first person to swim across the English Channel. He used the breast stroke, the most popular stroke of that era. Swimming received great impetus in the 1890's when the so-called Australian crawl was borrowed from South Seas natives. When the Olympics were revived in 1896, swimming became an Olympics sport for men. Women first swam in the Olympics in 1912.

Archeological evidence reveals that Swimming has been practiced as early as 2500 BC in Egypt and thereafter in the Assyrian Culture, Greek, and Roman civilizations. In Greece and Rome, swimming was a part of martial training and was, with the alphabet, also part of elementary education for males. In the Orient, Swimming dates back at least to the 1st century BC, there has been some evidence of swimming race during this period in Japan. In the 17th century, an imperial edict had made the teaching of swimming compulsory in the schools. However, organized swimming events were held in the 19th century before Japan was opened to the Western world. Among the pre-literate maritime people of the Pacific, swimming was evidently learned by children about the time they walked, or even before. Among the ancient Greeks there is note of occasional races, and a famous boxer swam as part of his training. The Romans built swimming pools, separate from their baths. In the 1st century BC, the Roman Gaius Maecenas is said to have built the first heated swimming pool.

SKILLS DEVELOPMENT AND TECHNIQUES OF SWIMMING

The Concept of Swimming

Swimming is both an individual and team sport. It is a process of moving the body through water by using arms and legs. The importance of learning swimming can be seen from the story of a nine-year-old boy who went to a little stream near his house, as usual. When he got to the stream he immediately jumped in. no sooner than that, he sank to the bottom; all his attempts and struggle to come to the surface, as he normally did fail. He was rescued by a passer-by but not after he had drunk much water and was unconscious. After reviving him, the passer-by told the boy's parent who came later, "if you had taught your child how to swim properly he could not have gotten into this unfortunate accident".

History and Development of Swimming

Swimming has been known since prehistoric times. Drawings from the Stone Age were found in "the cave of swimmers" near Wadi Sora (or Sura) in the south-western part of Egypt. Written references date from 2000 BC, including Gilgamesh, the Iliad, sagas. In 1538, Nikolaus Wynmann, A German professor of languages, wrote the first swimming book, *The Swimmer; or, A Dialogue on the Art of Swimming* (*Der Schwimmer ode rein Zwiegesprach uber die Schwimmkunst*).

Human beings have been swimming for thousands of years. One of the earliest representations of swimming is an ancient Egyptian wall relief that shows soldiers of Pharaoh Ramses II who reigned between 1290-1224 BC pursuing their enemies by swimming across the Orontes river between ancient Egypt and Asia Minor.

The origin of swimming is not really known but man probably learned how to swim from watching animals. Wall carvings of swimmers have been found since around 9000, B.C. The first written account of the teaching of was found in the records from the middle kingdom in Egypt (2160-1780 B.C). One of the earliest

references to swimming is that of Benjamin Franklin who taught swimming to children in England.

5) It helps to re-educate limb muscles after they might have been affected with polio-mellitus.

6) It helps to activate weak or atrophied muscles

7) It helps to develop a good range of flexibility

8) It helps to give pleasure to the deaf, the dumb, and the mentally retarded

Introducing Beginners to Swimming

1. Familiarization with the Water

Naturally most people are afraid of water. To make people love swimming they can be made to practice the following steps to develop water confidence

1. Sit down at the edge of the pool, and put your legs into the water to feel the temperature of the water.
2. Knee movement only, throw the water by beating it with your legs
3. Stand inside the water, flex your knees and dip the head under the water.
4. Bend forward, stretch the hands forward, and beat the surface of the water with your palm. Put your face on the water.
5. Long sitting at the bottom of the water.
6. Duck walk inside the water
7. Prone lying inside the water with arms and legs stretched flat on the floor of the pool.

2. Preparation for Swimming

Water Hygiene

The beginner and other swimmers should be taught the following water hygiene or sanitation.

1. You must visit the urinal or lavatory for the purpose of cleaning the nose and urinating before entering the pool.
2. You should go to shower down to that you can bring the body temperature to that of the water.
3. If you have a bite or fresh sore, do not enter the swimming pool.
4. Ladies should wear hair caps to swim in order to prevent contamination of the water with hair lotion.
5. Menstruating girls should not swim
6. Never urinate ore spit into the pool
7. Do not wear street shoes around the swimming pool.

Water Safety

For safety purpose the swimmers should obey the following rules

1. Do not run when you enter the swimming pool
2. Get familiar with both the deep and shallow ends of the pool.
3. Always enter the pool with wither the hands or your legs leading. Do not enter with your head leading.
4. If you can now swim very well, always start swimming from the deep and move to the shallow end so would be at the shallow end when you are tired.
5. Open your eyes while swimming so that you can see where you are going.
6. As a beginner, swim close to the wall of the pool so that when you are tired you will hand onto the wall.
7. Go to the swimming pool with a partner. Do not go alone, so that if there is any problem, your partner will quickly go for help.

Career Opportunities

Swimming also opens the way for various career opportunities. They include the following:

1. Employment as professional driver/swimmer by clubs and slates during competitions.
2. Employment by the Navy for maritime services. Thus knowing how to swim opens career opportunity in the navy or the shipping lines.
3. Working with the oil companies. The knowledge of swimming serves as a background for working in oil companies. Those who drill for oil have to go into water, rivers and seas. So swimming becomes useful.
4. Fishing in the riverine areas, the major occupation is fishing, so knowing how to swim helps the individuals to take fishing as an occupation.
5. Swimming coach. Knowing how to swim is the first step of becoming a swimming coach.
6. Life Guards. Knowledge of swimming can help you to become a life guard at a swimming pool. Life guards stay around pools and try to safe any person that is drowning.

EQUIPMENT AND FACILITIES IN SWIMMING

The importance of equipment and facilities in the teaching and learning of any physical education activity like swimming cannot be over emphasized. They make specific activity or task relatively easier. In addition, the serve as a motivator to the learner in particular and tend to promote and facilitate the work of a teacher.

Lagos, Nigeria in 1973 where Egypt came first and Nigeria was second. In the same year, Nigeria took part in West Africa Swimming Championship held in Lagos and won 19 gold medals. 1n 1975, Nigeria was featured in the third All-Africa Games held in Algeria and won 22 gold medals, 13 silver and 13 bronze. Nigeria participated in another

international swimming competition held in Cairo Egypt in 1981, and also took part in the International Age-group swimming meet in Spain in 1984. Nigeria swimmers also took part in the Commonwealth Games held in Scotland in 1990 and in the 1991 5yh All African Games held in Cairo, Egypt.

Nature of the Sport

Swimming is both an individual and a team sport. It is a float or progress by moving limbs on the surface of a liquid. Swimming is also described as the action of supporting oneself and propelling oneself by movement of the limbs in and on water. Swimming is an outdoor sport. It could be made an indoor sport when indoor pools are available. Outdoor facilities for swimming include pools, lakes, seashores, rivers and small streams dammed for this purpose. Swimming is generally recognized as an excellent activity for an all-round body development. It is also described as a sport which helps to protect life and it saves life.

Participants compete in races and the first swimmer to cover a predetermined distance is the winner. Competitions are held in four major categories of swimming strokes, these are freestyle, breaststroke, butterfly and backstroke. Swimming is better performed when the person is not tense, when he/she feels well at home in the water and is able to relax reasonably well. In all the swimming events except the backstroke, swimmers begin the race by diving into the pool from the starting blocks.

Values of Swimming

There are several benefits that may be derived from swimming. These benefits include physiological, recreational, social, competitive, health values and career opportunities. These benefits are discussed below.

1. Physiological Values

Participation in swimming sport has helped to keep the heart, lungs, muscles and bones in good form. Swimming also contributes to the development and proper maintenance of these vital organs.

Equipment and Supplies.

Filtering Machine

This is used to remove the dirt in the pool. The machine has two tanks for the treatment of the water, one collects water for filtration before finally being sent back to the pools. The dirt collected is sent out through a different outlet from where the water came in. this method is also called “WashBack”.

Heating Machine

Heating of the pool water is made possible by using a heating machine which collects the water gradually to be heated and send it back to the pool. This will heat the water to a certain degree that kills infectious organs or living things. However, in developing countries heating in big pools can be done after all cleaning procedures. In this case a heater outlet inside the pool needs to be plugged on.

Electric Pool Sweep

This is an automatic submarine washing machine. It is a new innovation used for keeping the swimming pool clean. It also has a hose or a tunnel attached to it through which dirty water can be sent out of the pool. Unlike the suction machine that is usually hand pushed, this machine is usually operated by the use of a remote control which moves the machine to any desired areas of the swimming pool.

Sucking Machine or Suction Sweeper

This is a machine connected with a pole which is hand pushed along dirty areas of the swimming pool. It has a hose or channel through which dirty water is eliminated or sent out.

Hand Brush

This is a long handed brush used for washing the side and walls of the pool to remove stains, dirt and algae that grow on the walls and bottom of the pool. The algae make the pool slippery.

Safety and Basic Skills in Water

Swimming is a very exciting and popular sport. In fact most people like to go to rivers and swimming pools just to enjoy the coolness of water, for picnics and for socializing with the family and friends on weekends. Even with these numerous advantages of swimming, some people are still afraid of getting close to water. These are usually those who do not know how to swim or who do not know how to swim or who do not possess the safety skills required of swimmers. Such people can only gain the benefits of swimming by learning the skill and safety precautions of swimming.

Safety Precautions in Swimming

A swimming pool or river is a place of potential danger for drowning. Therefore, certain rules and procedures must be established by the teacher to ensure the safety of every participant involved in the exercise. Safety measures in swimming may be broken down into two groups – prevention from infection and disease and prevention from accidents. It must be stated here that swimming polls present problems that are different from those encountered in open-water swimming e.g. rivers.

Rules for Preventing Infections and Diseases

1. Never swim while have any type of contagious infection. You may get the water contaminated with the disease especially swimming pools because the water does

not flow. Once the water is contaminated it becomes dangerous to the subsequent swimmers.

2. Make sure you take a shower before entering the pool and after using the toilet. This is to ensure some amount of cleanliness and hygiene.

3. Bathing caps should be worn while in the pool especially by ladies and those who have long hairs. The creams used on the hair may contaminate the water. Also those with long hair may have part of it cut into the water.

4. There should be no spitting in or around the pool because the water could be contaminated.

5. To avoid contamination, avoid wearing your street shoes in the pool.

6. Animals of all types should be excluded from the pool area. Animals may defecate or urinate into the water which may in turn be dangerous to man

7. To maintain a good standard of hygiene, swimmers should be trained to play their part in keep the swimming pool clean always.

8. People suffering from catarrh, sore throat, foot infection or any kind of open sore should be excluded from swimming because they may contaminate the water.

9. Regular foot and general cleanliness inspections should be carried out before swimming classes. This health measure would help prevent dirt and infections from spreading amongst the pupils.

Rules for Preventing Accidents for the Teacher

1. The teacher should ensure good discipline at all times during the swimming class.

2. Pupils should not be allowed in the water until the teacher or handler gives the permission

3. The teacher should not allow pupils running inside the pool or pushing others into the water.

4. Signals should be obeyed promptly, especially those indicating stopping and getting out of the water.

5. The number of pupils in the class should be checked from time to time, particularly at the end of the swimming class.

6. Long poles should be placed on both sides of the pool to be used in cases of emergency.

7. A rope should be used to show the limit of shallow water appropriate for the class.

8. In large pools and open water, it is often advisable to distinguish non-swimmers or beginner swimmers by using coloured caps.

9. In open water, rivers or crowded swimming pools, the teacher should pair swimmers so that they can take care of each other while swimming.

10. The teacher should possess a sound working knowledge of efficient methods of reviving an unconscious person; he should also be acquainted with the normal emergency arrangements provided at the pool.

Rules for Preventing Accidents by the Pupils in the Pool.

The following rules should be strictly followed by all swimmers:

1. Stay in your depth, until you have learned to swim well.

2. Always go to the swimming pool with a partner never swim alone. If you get into trouble your partner will call for help.

3. Make sure that anything you wear fits you comfortably well and does not restrict your movements.

4. Take care when walking near a swimming pool or river because the sides may be wet and slippery

5. Never eat or chew anything while swimming as this could choke you.

6. Never swim on a full stomach. After a heavy meal, you should wait for at least an hour before swimming to allow time for digestion. Otherwise stomach cramp may occur.

7. Never push anyone under water. This could frighten a beginner and damage his confidence.

8. If you swim in the sea, be very careful if you are using a vehicle tube or rubber ring. You could be carried away from the shore very quickly by the waves.

9. Never pretend to be drowning or yell for help unless you are in trouble, if you do this often, people may not take you serious when real trouble happens. Furthermore shouting out for help puts people into emergency situations and this should be avoided in the swimming pool

Techniques

The human body is 60% water and has a very similar density to water. While the lungs are filled with the air, the body is slightly less dense than the surrounding water, and there is a net upward force on the body. Thus staying afloat requires only a slight propelling of water downward relative to the body, and transverse motion only a slight propelling of water in a direction opposite to the direction of intended motion. This propelling is accomplished by using the hands of the forearms as paddles, and by kicking the legs and feet to push water away from the body. Since salt water (e.g. the ocean) is denser than fresh water (e.g. most swimming pools), less effort is required to stay afloat in salt water than in fresh water. Swimming styles have been developed based on the following principles: the torso and the legs should be kept as parallel as possible to the surface of the water. Dropped legs or slanted torso dramatically increase drag. The hand

should be extended forward of the head as much as possible. This increases the average length at the water-line, substantially increasing the speed of swimming.

Recent research has shown that hand force applied to the water is generated by the rotation of the hips, and not by the muscles of the arm. The muscles that pull the arm through the water are attached within one inch of the top of the arm. With a 21: arm, the lever ratio is 1:20, which means that a 100 lbs. of pull by the shoulder muscles produces only 5 lbs. of force at the hand as it pushes back against the water. The torque generated by the larger, stronger hip muscles, on the other hand, whips the hand through the water, much like golfers or batters whip their club and bats through the air with a fast turn of the hips. Elite swimmers who were able to make modest increases in the acceleration of their hips doubled their peak hand force output.

The time spent on the side should be maximized so the shoulders do not break the water-line and do not produce bow waves. This reduces the frontal cross-section, reducing drag further, and also increasing the ratio between the body's water-line-length and width. Similar improvements are possible by orienting the narrowest direction of head, hands, legs and arms into the water. The torso is by far the most critical. The motion of the hand, arm and leg from the back to the front should be in the air for as much time during the recovery stroke as possible, and in the water, oriented as hydro-dynamically as possible, because the returning appendage has to move at least twice as fast as the swimmer, and in the water generates eight times the drag (which increases with the cube of the speed) of an equal amount of torso frontal area. Rotating athe shoulders also adds power to the pull by using abdominal muscles to help pull the arm through the water.

The basic "catch" of the water is not nearly as critical as the above items. Most swimmers simply grab water with their hand flat, or the fingers slightly spread, and then draw it smoothly down their body. None of the above techniques require improved strength. With strength training, the hands and feet can be extended further into the water,

gaining more propulsion. For beginners, increased strength brings only small improvement if the strategies (minimizing drag and lengthening water-lane) are followed. Another technique that can help an athlete swim at a higher performance level is proper breathing techniques. Breathing correctly can make the swimmer swim faster and with less fatigue. Competitive swimmers take in one breath and gradually let it out over three to four strokes. As the race progresses and the swimmer become tired, less oxygen from those breaths reach the muscles. It is possible to teach to body to run on less than normal levels of oxygen. Take a deep breath at one side of a pool, submerge fully, and kick like a dolphin. Trying to cross the pool with one breath, and then extend the distance. Another way to practice endurance by taking a breath and letting it out over six strokes (while freestyle swimming).

Skeletal animation and computational fluid dynamics allow stimulation of swimmers. This allows the forces on joints and muscles to be measured, and, if multiple simulations are employed, to compare different styles or individuals. By means of computer graphics or motion capture the simulation can be prepared to real swimmers.

Basic Skills in Water

Skills for swimming are varied and numerous. It is essential that each swimmer learns such skills, in a step-by-step progression in order to gain any success at all. A beginning swimmer should learn the basic skills that will make him to be at home in the pool or river. These basic skills will now be discussed.

Entering the Water

1. Check the shallow and deep end, to note at what point, you will be out of your depth. In rivers or streams that do not have depth measurements, a stick may be used to get the depth. Make sure that you stay within your depth until you can swim confidently without assistance. The depth of the water should not be higher than the chest level.

2. Once you are ready to get into the water the easiest way is to climb in backwards down the pool steps at the shallow end. Another method is to sit at the edge of the pool, hold the side of the rail and twist the body to get into the water. The first method is shown in fig. 2.1

Methods of Entering the Pool

1. In rivers and streams or unfamiliar waters you must always enter the water with your leg heading.
2. Your first contact with cold water may be somewhat of a shock. Swimming water is usually considerably colder than bath water, and sudden contact with it may cause some reactions. The most common of these reactions are tenseness and cold. If the water seems to cold at first, do not go in all the way. Stand about knee deep and splash some water on your arms, trunk neck and head. This will also help you to get use to get use to change in temperature and going under the water will not be too sudden.

ADJUSTMENT TO THE WATER

Beginning swimmers must overcome the fear of the water by gradual adjustment to the feel of the water and its effects. Some beginners will have difficulty with this situation, while others may require considerable time to feel at home in the water. In adjusting to the water the following points are relevant.

1. Once you are in water the next step is to feel relaxed in it
2. Now start to walk around, make sure that you stay within your depth.

3. As you gain more confidence, try to keep away from the side of the pool.

4. You will only learn to swim when you are away from the side.

5. Walk around, but use your hands to keep yourself balanced and to pull yourself along.

6. After these, roll over from your back to your face and vice versa.

7. Then let the back of your head dip into the water while you keep your hands on the bottom

Floating

In true floating, a person is able to remain in or on the water for an indefinite period without any movement of the body. A person's body size is the determining factor in floating. This means that there is a wide range of floating abilities among individuals. If the body weight of an individual is such that it displaces less weight than an equal volume of water, the person will be able to float.

Floating can only be practiced through proper instruction. You need to be able to float before you can swim. Without knowing how to float, there will be tension and the tendency to fight the water, when learning the strokes. The following are helpful hints in trying to float:

1. Push your shoulders and hands under the surface of the water. If you are using an aid (tube or rubber ring) you will find that the air inside your aid almost forces you, to take feet off the bottom of the pool.

2. Bend your knees a little, still keeping your shoulders under the surface of the water. You will find that you are floating, although you are still in an upright position.

3. Try turning around, pulling and pushing against the water with your hand and kicking with your feet.

4. Now turn first one way, then the other, and you will see that you are quite safe. Your body made lighter by the aid is supported by the water. Also your aid keeps your head and mouth above the surface so you can breathe easily.

5. While doing the above movements you will feel the pressure of the water gently bringing your feet closer to the surface. Just let them come up, so that you are now horizontal, which is the correct position for swimming to increase floatation.

6. Now lie on your back, by bringing your feet up in front of you and resting your head in the water.

7. Lie on your front by leaning forward and letting your feet come up behind you. Keep your head out of water. This movement is shown in fig 1.2

Floating – Lie on the Front

Always try to kick with your legs and feet, and make pulling and pushing movements with your arms and hands.

Getting back on your feet

It is sometimes difficult to get back on to your feet after floating horizontally. The following are helpful hints in getting back on your feet.

1. If you are on your back, lift your head up and forward
2. At the same time push the water behind you with your hands and let youfeet drop to the bottom.
3. If you are on your front, lift your head up and backward.
4. Next push the water away in front of you.
5. Bend your knees so that you land flat on your feel. Try to practice these.

Getting your head under water (Submerging)

One of the early phases of water adjustment is that of getting the face used to the feel of the water. This skill may be practiced in the bathtub, washbasin or in shallow water. The following are helpful hints in, getting your head submerged in water.

1. Start by taking a deep breath and lowering your face into the water, while you are standing in the shallow end.
2. Breathe out by blowing bubbles hard through your nose and mouth at the same time.
3. Do not hold your nose while you submerge.
4. Also do not rub your eyes after-wards because this will irritate your eyes.
5. Next, practice a few times, aiming to lower your face a little further each time.
6. When your head is completely submerged open your eyes. You will not see as clearly under the water as above it. But you will be surprised how much more confident you feel when you can do this.
7. Keep trying until you are able to sit on the floor of the pool with your eyes open.
8. You will have to take off your aid (rubber ring) when trying this, because it will make you float and will not be able to touch the bottom of the pool.
9. Underwater games will also help you to get used to the feeling of keeping your eyes open when you submerge.

The following are some underwater games that you can do

a) Get a friend to join you
b) Try submerging while holding hands
c) You can count each other's fingers and/or toes
d) You can hum tunes for the other to guess
e) You can also try to pick objects from the bottom of the pool

Water Confidence

Water confidence is the ability to move around freely on the surface and underwater by controlling your movements without fear or tension. There are many ways

of building up confidence and floating is a particularly useful exercise. As it has been pointed out earlier, the ability to float depends on the size of your body. So some people may find it difficult to float while others are natural floaters. There are many ways of floating, on your back, or your front etc. So practice so much as possible. You may find that you float better in one position than in other. By finding out all different ways you can float helps you to develop better water confidence.

Breathing

Breathing for water skills is done by breathing out under water through the nose and mouth. While above water, you breathe in through the mouth. Also water may be taken in as small drops of water cling to the hairs on the nose when breathing. Air must be breathed out (exhaled) under water because there is no sufficient time breathe in (inhale) and exhale while the face is out of water. Furthermore holding the breath creates extra tension on the muscles of the chest. This cause fatigue to set in, so regular breathing should be observed whenever possible. The breathing in must be done quickly and almost with a gasp. The following are helpful hints for breathing.

1. Do not force the air out too fact.
2. Inhale only when air is needed
3. Keep forcing air out until the mouth is in a position to inhale
4. Do not attempt to inhale until the mouth is above water
5. Open the eyes for relaxation
6. Keep body under water while performing these exercises.

Streamlined Body Position

This refers to lying just underneath the surface of the water in a flat, horizontal position with the arms and legs closely in line with the body. As shown in the diagram bellow you can do this on your front and on your back figs 1.3 & 1.4.

a. Streamlined body position on your front.

b. Streamlined body position on your back.

For a successful and efficient swimming you should be able to maintain a streamlined body position. The following are hints on how to practice achieving a streamlined body position.

1. Streamlined body position on your front

a) Face the side of the pool and hold the rail with both hands

b) Let your feet rise to the surface behind you

c) Now take a deep breath and think about keeping your face in the water and your body flat and streamlined position (See figure 1.3)

2. Streamlined body position on your back

a) Hold on the rail with your hands behind your head

b) Float on your back in a streamlined position

c) Your arms should be stretched out behind your head.

d) Think about putting your head back and looking up at the roof or sky.

You will find out that it is easier to swim in the streamlined position because the more horizontal you are, the less resistance there will be to your body's movement through the water. You can try this by pushing off from the side of the pool. Try to glide through the water in different positions on your front and back. You may use an aid (rubber ring).

Treading Water

This is the ability to remain afloat in a vertical or semi-vertical position moving the arms and legs as in kicking in swimming but with the body in vertical position instead of horizontal. It is a useful water safely skill especially for those who travel into deep waters like the seas and oceans. Treading water is the best way of staying afloat for long

periods without getting tired too much. Thus, if you ever get into difficulties while swimming, treading water would be the best way to stay afloat while waiting to be rescued. The following are helpful hints for treading the water.

1. Work your legs vertically
2. Thrust the water downward with the soles of the feet like running upstairs
3. Use any type of kick you find easier.
4. Whichever kick you use, your hands should be pushing down on the water together in short movements close to your body
5. You must try to relax in the water
6. Do not waste energy by trying to keep too much of your body above the surface.
7. As long as your mouth is clear of the water, you can breathe, this is the main aim of treading water.
8. You will find out that you do not have to work too hard just to keep your mouth of the water.
9. You will also find out that you can keep on treading water almost indefinitely after a while.

Flutter Kicking

This is the kick that is used most often in swimming. It involves an alternate downward and upward movement of the legs. The following are helpful hints to perfect the flutter kick.

1. Place one hand on the side of the pool and the other against the side about one foot deep. The diagram below (fig 1.5) shows the flutter kick practices.

Flutter Kick Practice

2. Point the fingers of the ands down towards the bottom with the palm, up against the side.

3. By palling with the top hand and pushing with the bottom one, raise your feet and legs up.

4. Your feet and legs should be parallel and just under the surface of the water

5. Begin kicking your whole leg up and down from the hip joint.

6. Do not forcibly bend your knees or ankles. Keep them loose.

7. When your leg kicks down, the knee will bend form the water pressure. When you kick up, it will straighten from the pressure.

8. Try to imitate the relaxed leg feeling you get when walking at a leisurely rate.

9. Your heel should just break the surface at the top of the kick.

10. Your foot should just be about eighteen inches below the surface of the water at its lowest point.

11. Count your kicks in a six-stroke rhythm.

FORMS OF SWIMMING

Competitive Swimming

The goal of competitive swimming is to be the fastest to swim a given distance. Competitive swimming became popular in the nineteenth century, and comprises 34 events – 17 male events and 17 female events. Swimming is a popular event at the Summer Olympic Games, where male and female athletes compete in 13 of the recognized events each. Olympic events are held in a 50 meter pool. Competitive swimming international governing body is FINA (Federation Internationale de Natation), the *International Swimming Federation*.

The four competitive strokes are the butterfly, backstroke, breaststroke, and freestyle (front crawl). While “freestyle” and “front crawl” are often used

interchangeably, a swimmer may actually swim any stroke in a freestyle race as long as it is done continuously throughout the whole race. Swimmers generally choose to swim the front crawl in a freestyle event since the front crawl is typically the fastest stroke. These strokes can be swum individually or together in an individual medley (IM). The IM order is 1) butterfly, 2) backstroke, 3) breastroke, and 4) freestyle. There are two types of relays: medley and freestyle. The medley relay order is 1) backstroke, 2) breaststroke, 3) butterfly and 4) freestyle. Each of the four swimmers in the relay swims a predetermined distance, dependent on the overall length of the relay. The three relay lengths are 200 meters or yards, 400 meters or yards, and 800 meters or yards (which is only swum freestyle).

In a 50 meter pool, each swimmer swims one length for the 200 relay, two lengths for the 400 relay, and four lengths for the 800 relay. In a 25 meter or yard pool, each swimmer swims two lengths for the 200 relay, four lengths for the 400 relay, and eight lengths for the 800 relay. Many full-size competition pools have a length of 50 meters and a width of 35 yards. The Olympic pool size, allows both short course (25m or 25yd pool) and long course (50 m pool) races to be held. There are several types of judges: a starter sets of the swimmers; turn judges check that the swimmers' turns are within rules; swim judges check the swimmers' strokes; time keepers time the swims; and the referee checks that everything is running smoothly. If an official catches a swimmer breaking a rule concerning the stroke he or she is swimming, that swimmer is said to be disqualified (commonly referred to as "DQ'd" or "deaked") and the swim is not considered valid.

Recreational Swimming

The most common purpose for swimming is recreation. Recreational swimming is considered by many a good way to relax, while enjoying a good full-body workout. Several swimming styles are suitable for recreational swimming; most recreational

swimmers prefer a style that keeps their head out of the water and has an underwater arm recovery. Breaststroke, side stroke, and dog paddle, are the most common strokes utilized in recreational swimming, but the out-of-water arm recovery of freestyle or butterfly gives rise to better exploitation of the difference in resistance between air and water. The butterfly stroke, which consists of out-of-water recovery with even symmetry in body movements, is most suited to rough water swimming.

Occupational Swimming

Some occupations require the workers to swim, for example, abalone divers or pearl divers swim and dive to obtain an economic benefit, as do spear fishermen. Swimming is used to rescue other swimmers kin distress. There are a number of specialized swimming styles especially for rescue purposes. Such techniques are studies by lifeguards or members of the Coast Guard. The training of these techniques has also evolved into competitions such as surf lifesaving.

Swimming is also used in marine biology to observe plants and animals in their natural habitat. Other sciences use swimming. For example while studying animal behaviours. Swimming also has military purposes. Military swimming is usually done by Special Forces, such as Navy SEALS. Swimming is used to approach a location, gather intelligence, sabotage or combat, and to depart a location. This may also include airborne insertion into water or exiting a submarine while it is submerged.

Swimming for Exercise

Swimming is an excellent form of exercise. Because the density of the human body is very similar to that of water, the body is supported by the water and less stress is therefore placed on joints and bones. Therefore, swimming is frequently used as an exercise in rehabilitation after injuries for those with disabilities. Resistance swimming is one form of swimming exercise. It is done either for training purposes, to hold the

swimmer in place for stroke analysis, or to enable swimming in a confined space for athletic or therapeutic reasons. Resistance swimming can be done either against a stream of moving water (often termed a *swimming machine*) or by holding the swimmer stationary with elastic attachments.

Swimming is primarily an aerobic exercise due to the long exercise time, requiring constant oxygen supply to the muscles, except for short sprints here the muscles work anaerobically. As with most aerobic exercise it is believed to reduce the harmful effects of stress. Swimming can improve posture and develop a strong lean physique, called, logically, a "swimmer's build:" lean and spare throughout, with wide shoulders and a smaller lower body.

The Risks of Swimming

Swimming is generally a healthy activity and enjoys a low risk of injury compared with many other sports. Nevertheless there are some health risks with swimming including the following:

a. ***Drowning, inhalation of water arising from***

i. Adverse water conditions swamping or overwhelming the swimmer or causing water inhalation.

ii. Actions of others pushing under water accidentally in play or intentionally.

iii. Exhaustion or unconsciousness.

iv. Incapacitation through shallow water blackout, heat attacks, carotid sinus syncope or stroke.

Adverse effects of immersion

v. Secondary drowning, where inhaled salt water creates a foam in the lungs that restricts breathing.

vi. Salt water aspiration syndrome, SWAS

vii. Thermal shock after jumping into water can cause the heart to stop.

viii. Exocytosis which is an abnormal growth in the ear canal due to the frequent, long-term splashing of water into the ear canal. (Known as Surfers' ear)

b. Exposure to chemical

i. Disinfectant Chlorine will increase the pH of the water, if uncorrected the raised pH may cause eye or skin irritations.

ii. Chlorine inhalation; breathing small quantities of chlorine gas from the water surface whilst swimming for long periods of time may have an adverse effect on the lungs, particularly for asthmatics. This problem may be resolved by using a pool with better ventilation, with an outdoor pool having the best results.

iii. Chlorine also has a negative cosmetic effect after repeated long exposure stripping brown hair of all colour, turning it very light blonde. Chlorine damages the structure of hair, turning it "frizzy." Chlorine can dissolve copper which turns blonde hair green. Proper pool maintenance can reduce the amount of copper in the water, while wetting the hair before entering a pool can help reduce the absorption of copper.

iv. Chlorine will often remain on skin in an anhydrous form, even after several washings. The Chlorine becomes odorous once it is back in an aqueous solution (when salivated on, during a shower, etc.)

c. Infection

i. Water is an excellent environment for many bacteria, parasites, fungi and viruses affecting humans depending on water quality.

ii. Skin infections from both swimming and shower rooms can cause athlete's foot (boat bug). The easiest way to avoid this is to dry the space between the toes.

iii. Microscopic parasites such as Cryptosporidium can be resistant to chlorine and can cause diarrheal illness when swimmers swallow pool water.

iv. Ear infections, otitis media, (otitis external).

v. Unfortunately, when chlorine levels are improperly balanced, severe health problems may result, such as chronic bronchitis and asthma.

Swimmer's own actions

i. Overuse injury; competitive butterfly stroke swimmers for example may develop some back pain, including vertebral fractures in rare cases, and shoulder pain after long years of training, breaststroke swimmers may develop knee pain, and hip pain, and freestyle and backstroke swimmers may develop shoulder pain, commonly referred to as swimmer's shoulder (a form of tendinitis).

ii. Hyperventilation in a bid to extend underwater breath-hold times lowers blood carbon dioxide resulting in suppression of the urge to breathe and consequent loss of consciousness towards the end of the dive, see shallow water blackout of the mechanism.

d. ***Adverse water and weather conditions***

i. Currents, including tides and rivers can cause exhaustion, move swimmers away from safety, or pull swimmers under water.

ii. Wind enhances waves and can blow a swimmer off course.

vi. Hypothermia, due to cold water, can cause rapid exhaustion and unconsciousness.

vii. Sunburn severity can be increased by reflections in the water and the lack of clothing worn during swimming. Long-term exposure to the sun contributes to risk of skin cancer.

Objects in the water

a. Propeller damage is a major cause of accidents, either by being run over by a boat or entanglement on climbing into a boat.
b. Collision with another swimmer, the pool walls, rocks or boats.
c. Diving into a submerged object, or the bottom, often in turbid water.
d. Snagging on underwater objects, particularly submerged branches or wrecks.
e. Stepping on sharp objects such as broken glass.

Dangerous Aquatic Life

a. Stings, jellyfish and some corals
b. Piercings, sea urchins, zebra mussels, stingrays
c. Bites, sharks and other fish, snakes, lobster or crabs.
d. Electrocution, electric rays, electric eels.

Swimming Styles

A style is also known as a stroke. “Stroke” can also refer to a single completion of the sequence of body movements repeated while swimming in the given style. It is possible to swim by moving only legs without arms or only arms without legs; such strokes a my be used for special purposes, for training or exercise, or by amputees and paralytics.

Competition styles

There are four swimming styles commonly swum in competitions. Three of them are regulated by the FINA. These three are:

- Breaststroke
- Backstroke
- Butterfly stroke

A fourth competition is for unregulated styles and is called freestyle. During freestyle, it is possible to swim any style on this list. Due to the superior speed, most swimmers shoos front crawl for freestyle competitions. Competitive swimmers often use the term “freestyle” to refer to front crawl, even though this is technically not correct. For medley swimming freestyle is any style except breaststroke, backstroke and butterfly.

Recreational styles

On the breast

a. Front crawl is the fastest swimming style.

i. Trudgen (also known as *trudgeon*): The trudgen is similar to the front crawl, except that it is swum with a scissor kick.

ii. Trudgen crawl: Similar to the trudgen, but with a flutter kick between the scissor kicks

iii. Double trudgen: Similar to the trudgen, but the sides of the scissor kick alternate

iv. Double trudgen crawl: Similar to the double trudgen, but with a flutter kick between the scissor kicks.

v. Dolphin crawl: Similar to front crawl, but with a dolphin kick. One kick per arm or two kicks per cycle. This style is often used in training.

vi. Catch up stroke: a variation of the front crawl where one arm always rests at the front while the other arm performs one cycle.

vii. Total Immersion is a version of front crawl in which body rotation is emphasized to increase the propulsive effect of the arms.

Breaststroke

i. Heads-Up Breaststroke: Similar to the breaststroke, but the had stays out of the water. This style is very popular for recreational swimmers and also for rescue swimmer approaching a victim.

Butterfly

a. Slow butterfly (also known as moth stroke): Similar to butterfly, but with an extended gliding phase, Breathing during the pull/push phase, return head into water during recovery. This style uses four kicks or more per cycle.

b. Dog paddle: face over water and paddling alternatively with the hands, often with the nose and mouth above the water.

c. Human stroke: Similar to the dog paddle, but the arms reach out more and pull farther down.

d. Survival travel stroke: Alternating underwater arm stroke, one cycle for propulsion, one for lift to sty on the surface. This style is slow but sustainable.

e. Snorkeling: Swimming on the breast using a snorkel, usually in combination with masks and fins. Any stroke on the breast can be used, and there is no need to lift or turn the head for breathing.

f. Finswimming is the progression of a swimmer using fins either on the water surface or under water. Fin swimming is usually done on the breast.

On the back

Backstroke (also known as *back crawl*)

i. Elementary backstroke: both arms move synchronized with a small synchronized kick. This is also sometimes known as the Lifesaving Kick.

ii. Inverted breaststroke: Similar to elementary backstroke, but with a breaststroke kick.

iii. Inverted butterfly: Similarly to elementary backstroke, but with a dolphin kick. This is often used for training.

iv. Back double trudge: Similar to the backstroke, but with a scissor kick to alternating sides.

v. Flutter back fining: Symmetrically underwater arm recovery with flutter kick

vi. Feet first swimming: A very slow stroke on the back where a breaststroke movement with the arms propels the body forward feet first. This is often used for training.

On the side

i. Side stroke: Lying on the side with alternation underwater recovery and a scissor kick

ii. Overarm sidestroke: Similar to the side stroke, but with an over water recovery of the top arm. Used mostly for training purposes to help with freestyle.

Others

i. Corkscrew swimming: Alternating between front crawl and backstroke every arm. This leads to a constant rotation of the swimmer. The stroke is used mainly for training purposes.

ii. Underwater swimming: any style with underwater recovery can be swum under water for certain distances depending on the need for air. Underwater swimming on the back has the additional problem of water entering the nose. To avoid this, the swimmer can breathe out through the nose or wear a nose clip. Some swimmers can close their nostrils with the upper lip.

iii. Gliding: The swimmer is stretched with the arms to the front, the head between the arms and the feet to the back. This streamlined shape minimizes resistance and allows the swimmer to glide, for example after a start, a punch off from a wall, or to rest between strokes.

iv. Turtle stroke: on the breast, extend right arm then pull, after pushing with the left leg (while opposite limbs are recovering, then opposite limbs repeat this process, i.e. left arm pulls after right leg pushes. Uses muscles of the waist. Head can easily be above or below water: this is a slow but very sustainable stroke, popular with tutles and newts.

SWIMMING STROKES

Four of the five main swimming strokes – the crawl, backstroke, and butterfly – are used both in competition and recreation. The fifth major stroke, the sidestroke, is slower than the competitive strokes and is used primarily as a recreational and life-saving technique.

SKILL I: (The Front Crawl Stroke)

Microsoft Student Encarta Swimming:

The front crawl is one of the skills commonly used in swimming. It is perhaps the simplest and most popular stroke in swimming. This stroke used for both speed and distance swimming movement in water. It is basically the fastest stroke of all the strokes in swimming unit therefore emphasizes the body position in water and the correct execution of the leg and arm action in front crawl stroke.

Crawl

The crawl stroke is the fastest swimming stroke. The crawl is often called the freestyle because in *freestyle* races any stroke is allowed, and racers always choose to swim the crawl. In the crawl, the swimmer's position is streamlined. The arms pull down through the water as the legs move continuously in a flutterkick. In this diagram, the

swimmer is moving to the right. The swimmer then brings the left arm forward to enter the water while the right arm travels down the swimmer's side. As the left arm enters the water and the right arm exits, the swimmer's body begins to turn to the left side again, and the swimmer begins the stroke sequence once more.

In the crawl, turning the head to breathe is a simple, easy motion that should be coordinated with the body roll. As the body tilts completely to the right or left side, the swimmer4 should roll the head to the same side and take a breath. After inhaling, the swimmer puts his or her face back in the water, looking toward the bottom of the pool. The swimmer exhales slowly through the nose or mouth as the body rolls toward the other side.

Description of Front crawl Stroke

The front crawl stroke is a swimming style used in moving fast in water. The stroke is performed with the body lying prone in water. The body is in face float position with face down in water. In front crawl stroke, the arm movement is in alternate fashion. In the movement, one arm pulls while the other recovers with legs kicking alternately with up and down movement.

The Front Crawl Stroke

Body Position in Water

In performing the front crawl stroke in swimming, there is a difinite basic body position in water. The body should be held in as flat a position as possible on the surface of the water. This position allows a smooth combination of leg kick, arm action and recovery skills. The head should be slightly raised, so that the eyes look forwards and downwards to ensure a good body position in water during affront crawl stroke you should observe the following:

(a) Keep your face down in water

(b) Stretch your legs out behind you and point your toes

(c) Keep your hips close to the surface of the water as much as possible.

(d) Your two shoulder should fairly level

(e) Pull the aim alternatively under the water and recover over the surface

The above position will make the head, hip and feet to be in a straight line as shown below

Body Position in front crawl stroke.

Practicing the front crawl stroke

The front crawl stroke can be practiced under two main action which are leg action, and arm actions as stated below:

Leg Action

To practice the leg action, you need an inflated car tube or need to hold the side rail as a support. This will help you get your feet off the bottom of the water.

Carry out the following movement:

(a) Grasp the side rails and get into the water holding to the rail with both hands

(b) Kick your legs up and down the water alternately with swing from the hips.

(c) Make your legs free and as loose as possible.

(d) Keep legs close together and make sure that only the heels appear at the water surface.

(e) Repeat the kicks at varying speeds.

(f) Make movement start from hip and down to the legs (See fig. 9)

Leg Action in Front crawl Stroke.

You should not the following points:

a. Toes pointed

b. Loose ankle

c. Legs almost straight and close together

d. Small splash in water

e. Feet kicking upwards and downwards.

Leg Action Sequence:

The sequence for leg action in front crawl stroke should be noted as follows:

1. The leg kick is an alternating up and down movement. The movement begins at the hip and finishes in a whip – like action at the foot.
2. Left leg kick downwards to balance the right arm action.
3. The head start to turn as the right arm completes the pull movement.
4. The head turn as the arm recovers and the swimmer breathes in.
5. After breathing-in, the head begin to turn to the front, back to the starting position.
6. The legs have now completed the cycle and the sequence is repeated all over again.

The sequence for leg action in front crawl stroke is shown in (Fig. 4.4)

Leg action movement sequence to front crawl

Arm Action

In practicing the arm action in the front crawl, stand in shallow water and lean forward with one fool ahead of the other. Attempt to submerge your shoulder in water and perform the arm action. The same practice should be later carried out with the aid of a floater (inflated tube) put under the belly in water. The arm action is considered in three stage and they are: Arm entering water, the pull push and the recovery.

Arms entering water

The hand enters the water in front of the head, on a line roughly between the head and the shoulders. This should depend on your comfort. The fingers should go fist followed by the wrist and then the elbow which should slightly be bent (See Fig. 4.5).

Arm action in front crawl stroke.

Pull and push

The hand should be slightly cupped with finger close together. The Pull begins in the 'Catch' position (this is when the full stretched arm in front of the head is just slightly below the water ready for backward movement) (See Fig 4.6.). one arm is pulling as the other lifts and swings forward. At the same time, the swimmer will bend and lift the other elbow so that the hand is clear off the water. Then move it to the starting position (See fig. 4.6) below.

Left hand at 'catch' position for the pull and push action.

The 'Push' movement begins when the pulling hand move about the chest line backward towards the high pushing the water backwards.

NOTE

1. Both arms and legs move in water at the same time.
2. The arm pull should be made under the body with elbow bent.

Recovery

At the end of the pull and push, phase, let your hands leave the water effortlessly with the elbow leading Return them swiftly to the entry points. Make the movement a relaxed action.

Front crawl sequence – Arm Action:

The front crawl stroke should take the following sequence:

1. Arm pull starts with hand moving forward to ‘Catch” position
2. Right arm presses downwards and backwards.
3. Arm movement continues backward and now push towards the thigh
4. The arm then recovers with elbow leading, forearm and wrist relaxed.
5. The elbow ad forearm continue movement forward, with hand entering the water with fingers first.
6. The whole arms now complete the stroke and the sequence 1 to 6 is repeated oven.

Arm action movement sequence in front crawl.

Speed and ergonomics

The maximum swimming speed achieved in the front crawl is around 2.17m/s (7.81km/h, 4.85 mph). (If the faster start and turns are included in the measurement, the average speed may be higher). While the butterfly style has a higher peak speed in the cycle tube to the double arm pull/push, the average speed of butterfly is only 1.98m/s (7.13km/h, 4.43 mph).

The swimming position on the breast allows full flexibility of the arm in the water, as compared to the backstroke, where the hands cannot be moved easily along the back of the spine. The above-water recovery reduces drag, compared to the underwater recovery of breaststroke. The alternating arm stroke also allows some rolling movement of the body for an easier recovery compared to, for example, butterfly. Finally, the alternating arm stroke makes for a relatively constant speed throughout the cycle. Knees should be straight, a little bent, but straight.

The crawl is the fastest and most efficient swimming technique. It is also called the freestyle, because swimmers use it in freestyle events, which allow the use of my stroke. To swim the crawl, a swimmer travels through the water with the chest and head

pointing downward toward the bottom. The legs move in a flutter kick, moving up and down quickly and continually. Each arm stroke begins as the right arm is brought in front and slightly to the right of the swimmer's head and into the water. When the right hand enters the water, the right elbow should be above the surface of the water and the body should be tilted slightly to the left side. At the same time, the left arm accelerates underneath the water in a pulling motion down the length of the body.

Techniques

The initial position in freestyle is on the breast, with both arms stretched to the front and the legs extended to the back.

Microsoft Student Encarta crawl stroke Swimming:

After the right arm centers the water, the body naturally rolls to the right so that the body is horizontal to the water surface. The left arm continues through the stroke at the swimmer's side. The swimmer continues to extend the right arm forward, and the body begins to roll onto its right side. As the right arm begins to pull the swimmer forward, it increases the body's tilt to the right side, and the left arm exits the water near the swimmer's hip.

The arm movement

The arm movement i.e., while one arm is pulling/pushing, the other arm is recovering. The arm strokes also provide most of the forward movement. The move can be separated into three parts, the pull, the push, and the recovery. From the initial position, the arm sinks slightly lower and the palm of the hand turns 45 degree with the thumb side of the palm towards the bottom. This is called catching the water and is in preparation for the pull. The pull movement follows a semicircle with the elbow higher than the hand and the hand pointing towards the body center and downward. The semicircle ends in front of the chest at the beginning of the ribcage.

The push pushes the palm backward through the water underneath the body at the beginning and at the side of the body at the end of the push. Sometime after the beginning of the recovery of the one arm, the other arm begins its pull. The recovery moves the elbow in a semicircle in a vertical plane in the swimming direction. The lower arm and the hand are completely relaxed and hand down from the elbow close to the water surface and close to the swimmer's body. The beginning of the recovery looks similar to pulling the hand out of the back pocket of a pair of pants, with the small finger upwards. Further into the recovery phase, the hand movement has been compared to pulling up a center zip on a wetsuit. The recovering hand moves forward, with the fingers trailing downward, just above the surface of the water. In the middle of the recovery one shoulder is rotated into the air while the other is jumping backwards to avoid drag due to the large frontal area which at this specific time is not covered by the arm. To rotate the shoulder, some twist their torso while other also rotate everything down to their feet.

Beginners often make the mistake of not relaxing the arm during the recovery and of moving the hand too high and too far away from the body, in some cases even higher than the elbow. In these cases, drag and incidental muscle effort is increased at the expense of speed. Beginners often forget to use their shoulders to let the hand enter as far forward as possible. Some say the hand should enter the water thumb first, reducing drag through possible turbulence; others say the middle finger is first with the hand precisely bent down, giving trust right from the start. At the beginning of the pull, the hand acts like a wing and is moved slower than the velocity of the swimmer while at the end it acts like an oar and is moved faster than the velocity of the swimmer.

Recreational variations of front crawl involves only one arm moving at any one time, while the other arm rests and is stretched out at the front. This style is called a "catch up" stroke and requires less strength for swimming. This because the immersed length of the body is longer and more streamlined. This style is slower than the regular front crawl and is rarely used competitively: however, it is often used for training purposes even by

professional swimmers, as it increases the body's awareness of being streamlined in the water. Total Immersion is a similar technique.

The Leg movement

The leg movement in freestyle is called the flutter kick. The legs move alternately, with one leg kicking downward while the other leg moves upward. While the legs provide only a small part of the overall speed, they are important to stabilize the body position. This lack of balance is apparent when using a pull buoy to neutralize the leg action.

The leg in the initial position bends very slightly at the knees, and then kicks the lower leg and the foot downwards similar to kicking a football. The legs may be bent inward lightly after the kick the straight leg moves back up. A frequent mistake of beginners is to bend the legs too much or to kick too much out of the water. Ideally, there are 6 kicks per cycle, although it is also possible to use 8 kicks, 4 kicks or even 2 kicks. When one arm is pushed down the opposite leg needs to do a downwards kick also, to fix the body orientation, because this happens shortly after the body rotation. Alternatively, front crawl can also be swum with a butterfly kick, although this reduces the stability of the swimming position. A breaststroke kick with front crawl arms (The Trudgen) is awkward, because the breathing pattern for front crawl needs a rotation, yet a breaststroke kick resists this rotation.

Breathing

Normally, the face is in the water during front crawl with eyes looking at the lower part of the wall in front of the pool, with the waterline between the brow line and the hairline. Yet, currently, many are debating whether the head should be kept down too. Breaths are taken through the mouth by turning the head to the side of a recovering arm

at the beginning of the recovery, and breathing in *the triangle between the upper arm, lower arm, and the waterline.*

The swimmer's forward movement will cause a bow wave with a trough in the water surface near the ears. After turning the head, a breath can be taken in this trough without the need to move the mouth above the average water surface. A thin film of water running down the head can be blown away just before the intake. The head is rotated back at the end of the recovery and points down and forward again when the recovered hand enters the water. The swimmer breathes out through mouth and nose until the next breath. Breathing out through the nose may help to prevent water from entering the nose. Swimmers with allergies exacerbated by time in the pool should not expect exhaling through the nose to completely prevent intranasal irritation.

Standard swimming calls for one breathe every third arm recovery, i.e., every 1.5 cycles, alternating the sides for breathing. Some swimmers instead take a breath every cycle, i.e., every second arm recovery, breathing always to the same side. Most competition swimmers will breathe every other stroke, or once a cycle, to a preferred side. However some swimmers can breathe comfortably to both sides. Janet Evans was this was. Sprinters will often breathe a predetermined amount of times in an entire race. Elite sprinters will breathe once a fifty meter/yard race. For a one hundred yard race sprinters will often breathe every four stokes, once every two cycles, or will start with every four strokes and finish with every two strokes.

In water polo, the head is often kept out of the water completely for better visibility and easier breathing, at the price of a much steeper body position and higher drag.

Body movement

The body rolls about its long axis with every arm stroke such that the shoulder of the recovery arm is higher than the shoulder of the pushing/pulling arm. This makes the recovery much easier and reduces the need to turn the head to breathe. As one

shoulder is out of the water it reduces drag, as one shoulder falls it aids the arm catching the water, as one shoulder rises it aids the arm at the end of the push to leave the water.

Side-to-side movement is kept to a minimum: one of the main functions of the leg kick is to maintain the line of the body.

Start

The start is the regular start for swimming. After entering the water a brief gliding phase follows, followed by an underwater flutter kick or butterfly kick. A after a maximum of 15m the swimmer has to surface.

Turn and finish

The front crawl swimmer uses a tumble turn to reverse directions in minimal time. The swimmer swims close to the wall as quickly as possible. In the swimming position with one arm forward and one arm to the back, the swimmer does not recover one arm, but rather uses the pull/push of the other arm to initialize a somersault with the knees straight to the body. At the end of the somersault the feet are at the wall, and the swimmer is on his or her back with the hands over the head. The swimmer then pushes of the wall while turning sideways to lie on the breast. After a brief gliding phase, the swimmer starts with either a flutter kick or a butterfly kick before surfacing no more than 15m from the wall.

A variant of the tumble turn is to make a somersault earlier with straight legs, throwing the legs toward the wall and gliding to the wall. This has a small risk of injury because the legs could hit another swimmer or the wall. For the finish the swimmer has to touch the wall with any body part, usually the hand. Most swimmers sprint the finish as often as possible, which usually includes reducing their breathing rate.

Faults and corrections is front crawl stroke

Microsoft Student Encarta front crawl swimming

Faults may develop in a swimmer's stroke but efforts should be made to identify the causes and suggest corrections. You are likely to develop faults because you have fear, lack strength and mobility and co-ordination. Below are some common faults in front crawl stroke, together with possible to use good demonstration to correct faults.

Faults, Causes and Correction

	FAULTS	**CAUSE(S)**	**CORRECTIVE PRACTICE**
1.	Head too high in water	Fear of placing	Pushing and pulling arm action in water establish head position
2.	Excessive turning of the ad	Incorrect knowledge of oke and lack of co-dination	Practice arm action in shallow water
3.	Feet or lower leg coming t of water	Head too low in water.	Practice leg action in shallow water.
4.	Elbow or fore-arm ading into water	Faulty knowledge correct m action	Practice with emphasis on elbow lift gher than hands

RULES GOVERNING SWIMMING.

SWIMMING RULES

The following rules shall govern all competitions held at the Olympic Games, world championships and all open international competitions. Excepts as otherwise indicated.

(1) OFFICIALS:

(a) The organizing committee appointed by the promoting authority shall have jurisdiction over all matters not assigned by the Rules to the referee, judges or other officials and shall have power to postpone events and give directions consistent with rules as to the method to be adopted for conducting any event.

(b) At the Olympic Games, world championships and all open international competitions approved electronic judging and timing equipment systems must be provided and used. The operation of this equipment shall be under the supervision of appointed officials. Times recorded by electronic equipment shall be used to determine the winner, al placing and the time applicable to each lane. The placings and times so determined shall have precedence over the decisions of human judges and timekeepers. In the event a break-down of the electronic equipment occurs or it is clearly indicated that there has been a failure of the equipment, or that a swimmer has failed to activate the equipment, the decisions of the human judges and recordings of the human timekeepers shall be final.

When electronic equipment, timing to 1/100 sec. is used, the results shall be recorded as registered. When timing to 1/1000 is used, the third digit shall not be recorded or used to determine placement. In the event of equal times, all competitors who have recorded the same time at 1/100 sec. shall be accorded the same placing.

Times displayed on the electronic scoreboard should show times only to 1/100 sec.

Note: Times to 1/1000 sec. may be shown only on the electronic printout.

For manual timing with watches to 1/10sec., see Rule SW 12. In all timing of swimming events any device that is determined by an official shall be considered as a watch.

III. THE GOVERNING BODIES

The governing body is required to appoint, subject to the approval of the FINA Bureau or the respective regional or international authorities, the following officials for the control of all competitions of Olympic Games, world championships regional Games and important international fixtures;

A minimum of:

Referee	- 1
Starter	- 1
Chief Time-keeper	- 1
Time keepers	- 3 per lane
Chief Judge	- 1
Finishing Judges	- 3 per lane
Inspector of Turns	- 1 per lane at both ends
Judges of Strokes	- 2
Announcer	-1
Recorder	- 1
Clerk of course	- 1

For all other competitions there shall be at least:

Referee	- 1
Starter	- 1
Time keepers	- 1 per lane
Finishing Judges	- 1 per lane
Inspector of turns and strokes	- for every 2 lanes
Recorder	- 1

(D) **DUTIES AND POWERS OF OFFICIALS**

(2) Referee shall:

(i) have full control and authority over all officials and shall approve their assignments and instruct them regarding all special features or regulations related to the competition. He shall enforce all rules and decisions of the FINA and shall decide all questions relating to the actual conduct of the meet, the event or competition, the final settlement of any controversy which is not otherwise conversed by the rules.

(ii) Have authority to intervene in the competition at any stage to ensure that the FINA regulations are observed adjudicate on all protests related to the competition in progress.

(iii) Given a decision in case where the judges' decision and the times recorded do not agree. The recording of the electronic timing equipment, if available and operating shall be used.

(iv) Ensure that all officials necessary for the conduct of the event or are at their respective posts. He may appoint substitutes for those who are absent, incapable of acting or found to be inefficient. He may appoint additional officials if considered necessary. He shall assign the judges of strokes.

(v) Disqualify any competitor for any violation of the rules that he personality observes or which is reported to him by other authorized officials.

(vi) When video tapes is available, it must be consulted by the referee in any case of doubt or protests (turns, finish, and relay take off).

(vii) At the commencement of each event the referee shall signal to clothing except costume followed by a low whistle indicating that they shall take their position on the back of the starting platform (or if backstroke swimming and medley relays to immediately enter the water) when the competition and official are prepared for the start the referee shall gesture to the under the Centre of starter.

2) **Clerk of course:**

To assemble and prepare competitors prior to each event.

3) **Starter** shall

(i) Have full control of the competitors from the time the referee turns the competitors over to him until the race has commenced.

(ii) With the concurrence of the referee, disqualify competitors for delaying the start, or for willfully disobeying an order or for any other misconduct taking place at the start; such disqualification shall not be counted as a false start.

(iii) have absolute power to decide whether the start is fair, subject to the decision of the referee if the starter believes that the start is not fair he shall recall the participants after the signal of start has been given except after two false starts, when the starter shall not recall the competitors after the signal of start has been given.

(iv) When starting an event the starter shall stand on the side of the pool within approximately 5 meters from the edge of the pool when the time keeper can see the starting signal and the participants can hear the signal.

(4) **CHIEF TIMEKEEPER**

(i) Assign the seating positions for all time keepers and the lanes for which they are responsible.

(ii) Assign each lane to three timekeepers.

There shall be two additional timekeepers designated, either of whom shall be directed to replace a timekeepers whose watch did not start or stopped during an event, or who for any other reason is not able to record the time.

(iii) Collect from each timekeeper a card showing the time recorded and, if necessary, inspect their watches.

(iv) Record or examine the official time on the card for each lane.

(5) **Time-Keeper** shall:

(i) Take down the time of the competitor in the lane assigned to him. The watches shall be certified correct to the satisfaction of the committee of management of the meet.

(ii) Start their watches at the starting signal, and shall stop their watches when the competitor has completed the race. They may record times at intermediate distance longer than 100metres.

(iii) Promptly after each race, record the time by his watch on the time card and turn it over to the chief timekeeper, and if requested, present his watch for inspection. He shall not clear his watch until he receives the “clear watches” signal from the chief timekeeper or referee.

Note: when electronic starting and time equipment in used, it will be necessary to the same complement of hand timers as is indicated in para 2 under chief timekeeper.

(6) **Chief Inspector of Turns.**

(i) The chief inspector of turn shall ensure that inspectors of turns fulfill their duties during the competition.

(ii) If any infringement occurs, the report received be put up to the referee by him immediately.

(7) Inspector of Turns (IT):

(i) One IT will be assigned in each lane at each end of the pool.

(ii) Judges-stroke, will ensure that the swimmer follow the relevant rules for turning. Commencing from the beginning of the last arm stroke before touching and ending with the completion of the first arm stroke after turning. IT will also ensure that the swimmers finish their race in accordance with the relevant rules.

(iii) in individual event of 800 to 1500 metres. IT at the turning end of the pool shall keep the record of number of laps completed by the swimmer in his lane

and keep the swimmer informed of the remaining number of laps to be completed by displaying (LAP CARDS).

(iv) Each inspector at the starting end shall give a warning signal when the swimmer in his lane has two length and five metres to swimmer finish in individual events of 800 and 1500 metre. The warning signal may be by whistle or bell.

(v) Each IT at the starting and shall determine, in relay events, whether the starting competition is in contact with the starting block when the preceding competitor touches the starting wall

(vi) IT will report any violation on signal cards detailing the events to the chief IT for further necessary action.

(8) **Chief Finish Judge (CFJ).**

(i) The chief finish judge shall assign each finish judge his position and the placing to be determined.

(ii) After the race C F J shall collect signed result sheets from each finish judge and establish the result and placing which will be sent directly to the referee.

(iii) If automatic device is used, the C F J must report the order of finish recorded by the device.

(9) **Finish Judges.**

(i) Finish Judge shall occupy the elevated stands in line with the finish where they have at all times a clear view of the course and the finish line, unless they operate an automatic device in their respective lanes depressing the push-button at the completion of the race.

(ii) After each event the Finish Judges shall decide and report the placing of the competition according to the assignments given to their finish judge. Those who have push button operation shall not act as timekeepers in the same event.

(10) **Desk Control.**

(i) The Chief Recorder is responsible for checking results from computer printouts or from results of times and placing's in each event received from the referee. The chief recorder shall witness the referee's signing the results.

(ii) The recorders shall control withdrawals after the heats or finals, enter results on official forms, list all new records established, and maintain scores where appropriate.

(iii) Officials shall make their decision autonomously and independently of each other unless otherwise provided in the swimming rules.

(11) **Seeding of Heats and Finals.**

The starting stations for all events in Olympic Games, world championships, regional games and other FINA competitions shall be by seeding as follows:

Heats:

(i) The best competitive times of tall entrants for the preceding twelve months shall be submitted on entry forms and listed in order of time by the management committee. Swimmers who do not submit times shall be considered the slowest and shall be placed at the end of the list placement of swimmers with identical times or of more than one swimmer without times shall be determined by draw. Swimmers shall be placed in lanes according to the procedures set forth in 11.

(ii) Swimmers shall be placed in trial heats according to submitted times in the following manner:

(iii) If one heat, it may be seeded as a final and swum only during the final session, at the referee's discretion.

(iv) If two heats, the fastest swimmer team shall be seeded in the second heat, next fastest in the first heat, next fastest in the second heat, next in the first heat, etc.

(v) If three heats, the fastest swimmer shall be placed in the third heat, next fastest in the first. The fourth fastest swimmer shall be placed in the third heat, the fifth in the second heat, and the sixth fastest in the first heat, the seventh fastest in the third heat, etc.

(vi) If four or more heats 11(v) the last three heats of the event shall be seeded in accordance with above. The heat preceding the last three heats shall consist of the next fastest swimmers, etc. Lanes shall be assigned in descending order of submitted times within each heat, in accordance with the pattern outlined in (11 viii) below.

(vii) Exception – when there are two or more heats in an event, there shall be a minimum of three swimmers seeded into any one prelimary heat, but

subsequent scratches may reduce the number of swimmers in such heat to less than three.

(viii) Except for 50 metre events, assignment of lanes shall be (number 1 lane being on the right side of the pool when facing the course from the starting end) by placing the fastest swimmer or team in the center lane in pool with an odd number of lanes, or in lane 3 or 4 respectively in pools having 6 or 8 lanes. The swimmer having the next fastest time is to be placed on his left, then alternating the others to right and left in accordance with the submitted times. Swimmers with identical times shall be assigned their lane positions by draw within the aforesaid pattern.

(ix) When 50 metre events are contested, the races may be swum, at the discretion of the management committee, either from the regular starting end to the turning end or from the turning end to the starting end, depending upon such factors as existence of adequate automatic equipment, starter's position, safety, etc. The management committee should advise competitors of their determination well before the start of the competition. Regardless of which way the race is swum, the swimmers shall be seeded in the same lanes in which way the race is swum, the swimmers shall be seeded in the same lanes in which they would be seeded if they were both starting and finishing at the starting end.

Final.

(i) Where no preliminary heats are necessary, lanes shall be assigned in accordance with 11 (viii) above. Where preliminary heats have been held, lanes shall be assigned with 11 (viii) based, however on times established in such heats.

(ii) In the event that swimmers from the same or different heats have equal times registered to 1/100 second for either the eighth place or sixteenth place, there shall be a swim-off to determine which swimmer shall advance to the appropriate finals. Such swim – of shall take place not less than one hour after all involved swimmers have completed their heat.

(iii) Where one or more competitors scratch from a final event (A or B final), substitutes will be called in order of classifications in heats. The event or events must be re-seeded and supplementary sheets must be issued detailing the changes or substitutions, as prescribed in 11 (viii).

(iv) in other competitions, the draw system may be used for assigning lane positions.

(13) The Start.

(i) The Start in freestyle, breaststroke and butterfly race shall be with a dive. On the long whistle from the referee the competitors shall step onto the back surface of the starting platform and remain there. On the starter's command "take your marks", they shall immediately take up a starting position at the front of the starting platforms. When all competitors are stationary, the starter shall give the starting signal (shot, horn, whistle or command).

(ii) The start in backstroke and medley relay races shall be from the water. At the Referee's long whistle the swimmers shall immediately enter the water and return without undue delay to the starting position; Referee shall give the command "take your marks", when all competitors are stationary, the starter shall give the starting signal.

(iii) In Olympic Games, World Championships and other FINA events the command “Take your marks” shall be in English and the start shall be by multiple loudspeakers shall be sufficiently loud that repetition of the signal will give adequate recall signal for a false start.

(iv) The starter shall call back the competitors at the first or second false start and remind them of not starting before the starting signal. After the second false start any swimmer starting before the starting signal shall be disqualified. If the starting signal sounds before the disqualification is declared, the race shall continue and the swimmer or swimmers shall be disqualified upon completion of the race. If the disqualification is declared before the starting signal, the signal shall not be given, but the remaining competitiors shall be called back, be remained by the starter of the penalties, and start again.

(v) The signal for a false start shall be the same as the starting signal (shot, horn, whistle or command) but repeated along with dropping of the false start rope. Alternatively, if the referee decides that the start is false he shall blow his whistle, which shall be followed by the starter’s signal (repeated) and dropping of the false start rope.

(vi) If an error by an official follows a fault by a swimmer, the fault by the swimmer is expunged

(14) **The Race.**

(i) A competitor swimming over the course alone shall cover the whole distance to qualify.

(ii) A swimmer must finish the race in the same lane in which he started.

(iii) In all events, a swimmer when turning shall make physical contact with the end of the pool or course. The turn must be made from the wall, and it is not permitted to take a stride or step from the bottom of the pool.

(vi) Standing on the bottom during freestyle events or during the freestyle portion of medley events shall not disqualify a competitor, but he shall not walk.

(v) Obstructing another competitor by swimming across another lane or otherwise interfering shall disqualify the offender and should the foul be intentional, the Referee shall report the matter to the member promoting the race, and to the member of the swimmer so offending.

(vi) No competitor shall be permitted to use or wear any device that may aid his speed, buoyancy or endurance during a competition (such as webbed gloves, flippers, fins, etc.) Goggles may be worn.

(vii) Any swimmer not entered in a race, who enters the water in which an event is being conducted before all swimmers therein have completed the race, shall be disqualified from his next scheduled competition in the meet.

(viii) There shall be four swimmers on each relay team.

(ix) In relay events, the team of a competitor whose feet lose touch with the starting platform before the preceding teammate touches the wall shall be

disqualified, unless the competitor in default returns to the original starting point at the wall but it shall not be necessary to return to the starting platform.

(x) Any relay team shall be disqualified from a race if a team member, other than the swimmer designated to swim that length, enters the water when the race is being conducted, before all competitors of all teams have finished the race.

(xi) The members of a relay team and their order of competing must be nominated before the race. Any relay team member may compete in a race only once. The composition of a relay team may be changed between the heats and finals of an event, provided that it is made up from the list of swimmers properly entered by a member for that event.

(xii) Any swimmer having finished his race, or his distance in a relay event, must leave the pool as soon as possible without obstructing any other competitor who has not yet finished his race. Otherwise the swimmer committing the fault, or his relay team, shall be disqualified.

(xiii) Should a foul endanger the chance of success of a competitor, the Referee shall have the power to allow him to compete in the next heat, or should the foul occur in a final event, he may order it to be reswum.

(15) Medley Swimming.

(i) In individual medley events, (i) the swimmer covers the four swimming style in the following order: Butterfly, Backstroke, Breaststroke and Freestyle.

(ii) The stroke and turns for each stroke shall follow the prescribed rules for each stroke.

(iii) The turns from one stroke to another shall be considered turns not finish and are as follows:

(a) **Butterfly to back stroke.** Once a legal touch has been made, the swimmer may turn in any manner desired. The swimmer must have returned to a position where the shoulders are at or past the vertical towards the back before the feet have left the wall.

(b) Once a legal touch has been made, the swimmer may turn in any manner desired. The shoulder must be at, or past the vertical toward the breast when the feet leave the wall. The prescribed stroke form must be attained prior to the first arm stroke.

(c) **Breast stroke to free-style:** once the legal touch has been made, the swimmer may turn in any manner desired.

(d) **Finish:** touch the wall or pad with any part of the body.

(B) **Medley Relay events**

(i) Swimmers will cover the four swimming styles in the following order: Backstroke, Breaststrokes, Butterfly and Freestyle.

(ii) Each relay team member shall leave the water immediately upon finishing his leg except the member.

(iii) Each member shall perform the stroke according to the rules while swimming their stroke.

(16) **Freestyle swimming.**

Freestyle means that in an event so designated the competitor may swim any style, except that in individual medley or medley relay events, freestyle means any style other than backstroke, breaststroke or butterfly. In freestyle swimming, turning and finishing the swimmer can touch the wall with any part of his body. A hand touch in not obligatory.

(17) **Backstroke.**

(i) The competitors shall line up in the water facing the starting end, with the hands placed on the starting grips. The feet, including the toes, shall be under the surface of the water. Standing in or on the gutter or bending the toes over the lip of the gutter is prohibited. The swimmer is not allowed to make any movement with any part of his body before the starting signal has been given, throughout the race. The hands must not be released before the starting signal has been given.

(ii) Any competitor leaving his normal position on the back before the head, foremost hand, or arm has touched the end of the course for the purpose of turning or finishing, shall be disqualified.

(iii) Turns. The swimmer's head, shoulder, foremost hand or arm must touch the end of the course, the shoulders must not turn over beyond the vertical before the touch is made. It is permissible to turn the shoulder beyond the vertical after the touch, however, on the push off, the

swimmer must return to a position where the shoulders are at or past the vertical towards the back before the feet leave the wall.

(iv) **Finish.**

The swimmer has finished the race where any part of the body touches the wall at the end of the course.

(18) **Beaststroke.**

(i) The body shall be kept perfectly on the breast and both shoulders shall be in line with the water surface from the beginning of the first arm stroke after the start and on the turn.

(ii) All movements of the leg arms shall be simultaneous and in the same horizontal plane without alternating movement.

(iii) Hands shall be pushed forward together from the breast, and shall be brought back on or under the surface of the water except at the start and at the turn, the hands shall not be brought back beyond the hip line.

(iv) Turn. At each turn, the touch shall be made with both hands simultaneously at above or below the water surface and the shoulders shall be in line with the water surface. The head may be submerged after the last arm pull prior to the touch, provided it breaks the surface of water at some point during any part of the last complete cycle preceding the touch, once a touch has been made, the swimmer may turn in any manner desired. The shoulder must be at, or past the vertical lowered breast, when the feet leave the wall.

v) **Finish.**

At the finish, the touch shall be made with both hands simultaneously at, above, or below the water surface. The body shall be on the breast and the shoulder in line with the water surface. The head may be submerged after the last arm pull prior to the touch provided it breaks the surface or water at some point during any part of the last complete or incomplete stroke cycle proceeding the touch.

19) **Butterfly stroke.**

(i) Both arms must be brought forward together over the water and brought backward simultaneously.

ii) The body must be kept perfectly on the breast and both shoulders in line with the surface of the water from the beginning of the first arm stroke, after the start and on the turn

iii) All movements of the feet must be executed in a simultaneous manner. Simultaneous up and down movements of the legs and feet in the vertical plane are permitted. The legs or feet need not be at the same level, but no alternating movement is permitted.

iv) When touching at the turn or on finishing a race, the touch shall be made with both hands simultaneously, and with the shoulders in the horizontal position. The touch may be made above or below the water level.

v) At the start and at turns, a swimmer is permitted one or more leg kicks and one arm pull which must bring him to the surface under the water which must brining him to the surface.

20. **Timing.**

(i) At the Olympic Games, world swimming championships, and FINA World Swimming Cups, approved Automatic officiating equipment must be provided and used. The operation of this equipment shall be under the supervision of appointed officials. Times recorded by automatic equipment shall be used to determine the winner, all placing and the time applicable to each lane. The placing and times so determined shall have precedence over the decisions of human judges and recording of the human timekeepers shall be official.

ii) When automatic equipment is used, the results shall be recorded only to 1/100 of a second. When timing to 1/1000 of a second is available, the third digit shall not be recorded or used to determine time or placement. In the event of equal times, all competitors who have recorded the same time at 1/100 of a second shall be accorded the same placing. Times displayed on the electronic scoreboard should show only to 1/100 of second.

iii) Any timing device that is terminated by an official shall be considered a watch. Such manual times must be taken by three timekeepers appointed or approved by the member in the country concerned. All watches shall be certified as accurate to the satisfaction of the governing body concerned. Manual timing shall be registered either to 1/10 of a second or, if there are three digital watches which read out to 1/100th of a second, to 1/100 of a second. Where no automatic equipment is used, official; manual times shall be determined as follows:

i. If two of the three watches record the same time and the third disagrees, the two identical times shall be the official time.

ii. If all three watches disagree, the watch recording the intermediate time shall be the official time.

iii. If the times registered by the timekeepers do not agree with the decision of the finish judges and where the time of a swimmer placed second is better, the swimmer placed first and the second-place swimmer shall be credited with the times calculated on the average of the actual times recorded for both the first and second places. The same principle is to apply to all placings. It is not permissible to announce times which do not support the classifications made by the finish judges.

iv. Should a competitor be disqualified during or following an event, such disqualification should be recorded in the official results, but no time or place shall be recorded or announced.

21) **World Records.**

(i) For World Records, the following distances and styles for both sexes shall be recognized:

Freestyle	:	50, 100, 200, 800, and 1500 metres
Backstroke	:	100 and 200 metres
Breaststroke	:	100 and 200 metres
Butterfly	:	100 and 200 metres
Individual medley	:	200 and 400 metres
Freestyle relays	:	4 x 100 and 4 x 200 metres
Medley relay	:	4 x 100metres

ii) Members of relay teams must be of the same nationality.

iii) All records must be made in scratch competition or an individual race against time, held in public and announced publicly by advertisement at least three days before the attempt is to be made.

iv) No peacemaking shall be permitted, nor may any device be used or plan adopted which has that effect.

v) The length of each lane of the course must be certified by a surveyor or other qualified official appointed or approved by the member in the country in which it is situated.

vi) World records will be accepted only when times are reported by automatic officiating equipment.

vii) Times which are equal to 1/100 of a second will be recognized as equal records and swimmers achieving these equal times will be called "joint holders". Only the time of the winner of a race may be submitted for a world record. In the event of a tie in record-setting race, each competitor who tied shall be considered a winner.

viii) the first swimmer in a relay may apply for a world record. Should the first swimmer in a delay team complete his distance in record time in accordance with the provisions of this subsection, his performance shall not be nullified by any subsequent disqualification of his relay team for violations occurring after his distance has been completed.

ix) A swimmer in an individual event may apply for a world record at an intermediate distance if he or his coach or manager specifically requests the referee that his performance be especially timed or if the time at the intermediate distance is recorded by approved automatic officiating equipment. Such swimmer must complete the scheduled distance of the event to apply for a record at the intermediate distance.

x) Applications for world records must be made on the FINA official forms by the responsible authority of the organizing or management committee of the competition and signed by any authorized representative of the member in the country of the

swimmer, if satisfied that all regulations have been observed. The application form shall be forwarded to the Honorary Secretary of the FINA within 14 days after the performance.

xi) A claim of a World Record performance shall be provisionally reported by telegram or telex to the Honorary Secretary of the FINA within 7 days of the performance.

xii) The member in the country of the swimmer should report this performance by letter to the Honorary Secretary of the FINA for information and action, if necessary, to assure that the official application has been properly submitted by the appropriate.

xiii) On receipt of the official application, the Honorary Secretary of the FINA shall communicate immediately with the president of the FINA or his designate. Records thus approved shall be referred by mail to the Bureau at intervals of four months for ratification. All records thus ratified may then be published and certificates provided to those persons whose applications have been accepted.

xiv) At the Olympic Games, world swimming championships and FINA World Swimming cups, record applications received three days before the commencement of the competitions may be approved by the FINA Bureau and advertised in the programme of the competitions. All records made during the Olympic Games, World Swimming Championships and FINA World Swimming Cups may be approved by the Bureau during those competitions.

xv) If the procedure of 12.10 has not been followed, the member in the country of a swimmer can apply for world record in default thereof. After due investigation, the Honorary Secretary of the FINA is authorized to accept such records if the claim is found to be correct.

xvi) If the application for a world record is accepted by the FINA, a diploma, signed by the president and the Honorary Secretary of the FINA shall be forwarded by the Honorary Secretary of the member in the country of the swimmer for presentation to him in recognition of his performance. A fifth world record diploma will be issued to all members whose relay teams establish a world record. This certificate is to be retained by the member.

22) **Pool**.

(i) Length: 50metre when touch panel of automatic officiating equipment are used with starting end or additional on the turning end, the pool must be of such length that ensures the required distance of 50 metres between the two panels.

ii) Dimensional tolerance. Against the normal length of 50 metre, a tolerance of plus 0.3 metre above to 0.8 metre below the surface of the water. These measurements should be certified by a surveyor or other qualified official appointed or approved by the member in the country in which the pool is situated. Tolerances cannot be exceeded even when finish pads are installed.

iii) Width: 21.0 metres (minimum)

iv) Depth: a minimum of 1.8m over all for Olympic Games and world championships.

v) Walls

a) End walls shall be parallel and form right angles with the surface of the water, and shall be constructed of solid material, with a nonslip surface extending 0.8m below the water surface, so as to enable the competitor to touch and push off in turning without hazard.

b) Rest ledges along the pool walls are permitted: they must be not less than 1.2m below the water surface, and may be 0.1 to 0.15m wide.

c) Gutters – may be placed on all four walls of the pool. End wall gutters if installed must allow for attachment of touch panels to the required 0.3m above the water surface. They must be covered with a suitable grill or screen. All gutters should be equipped with adjustable shutoff values, so that the water may be kept at a constant level.

vi) Number of lanes – 8 .

vii) lanes should be at least 2.5m wide, with 2 spaces each of at least 0.5m width outside of lanes 1 and 8 respectively.

viii) lane ropes – shall extend the full length of the course, secured at each end wall to anchor brackets recessed into the end walls. Each lane rope will consist of floats placed end to end having a minimum diameter of 5cm to a maximum of 11cm. the colour of the floats extending for a distance of 5.0m from each end of the pool shall be distinct from the rest of the floats. There not be more than one lane rope between each lane.

ix) starting platforms – starting platforms above the water surface may be from 0.5m to 0.75m, the surface area must be at least 0.5 m x 0.5m and covered with non-slip material. Maximum slope shall not be more than 10 degrees. The platforms shall be constructed so as to permit the gripping of the platform by the swimmer in the forward start at the front and the sides. Handgrips for backstroke starts must be placed within 0.3 m to 0.6m above the water surface both horizontally and vertically. They must be parallel to the surface of the wall, and must not protrude beyond the end wall.

x) Numbering. Each starting block must be distinctly numbered on all 4 sides, clearly visible to the judges. Lane number 1 shall be on the right hand side when facing the course from the starting end.

xi) Backstroke turn indicators. Flagged ropes suspended across the pool 1.8 m above the water surface from the fixed supports of stands, shall be set 5.0m each end wall.

xii) false start rope. Shall be suspended across the pool not less than 1.20m above the water level from fixed standards placed 15.0m in front of the starting end. It shall be attached to the standards by a quick release mechanism

xiii) Water minimum tempature - 24^0 centigrade, or 75^0 fahrentheit. During competition the water in the pool must be kept at a constant level, with no appreciable movement. In order to observe health regulations in force in most countries, inflow and outflow of water is permissible aslong as no appreciable current or turbulence is created,

xiv) Lighting. Light intensity over starting platforms and turning ends must not be less than 1000 lux (100 foot candles)

xv) Lane markings. Shall be of a dark contrasting colour, placed on the floor of the pool in the centre of each lane.

WIDTH : min. 0.20 m: max. 0.30m

LENGTH : 46.0m

Each lane line shall end 2.0m from the end wall of the pool with a distinctive cross line 1.0m long and of the same width as the lane line. The distance between the centre points of each lane shall be 2.50 m. target lines must be placed on the and walls or on the electronic timing pads, in the centre of each lane, of the same width as the lane lines. They shall extend without interruption from the deck edge (curb), to the floor of the pool. A cross line 0.5m long shall be placed 0.3m below the water surface, measured to the centre point of the cross line. The cross line on the touch pad shall be placed 0.3m below the water line.

xvi) The minimum distance separating the swimming pool from the diving well shall be 5.0m.

xvii) The swimming pool and the technical equipment for Olympic Games and world championships shall be inspected and approved in due course prior to the swimming competitions by the FINA Delegate together with a member of the Technical Swimming Committee.

xviii) All swimming pools shall be available for use by entered competitors for not less than three days before competition begins and during competition days when competition is not in progress.

xix) Seats must be provided for all competitors and team and unassigned technical officials (alongside the swimming pool or from the side of the starting end) from which they may watch the competitions directly and without being visually impeded.

23) **Protest.**

Any protest or complaint shall be made in writing to the referee within 30 minutes of the occurrence. But if known before the race, much protest must be lodged before the signal to start is given.

All protests shall be considered by the executive or committee appointed by the association of the country in which the race takes place, or if occurring during the Olympic Games and world championships, by the FINA Executive Committee. When the officials are recognized or appointed by their Association, no protest or appeal shall be allowed from their decision on questions of fouling or placing. Their decision on these matters shall be final.

24) **Supplement to Swimming Rules:**

A. **Automatic officiating equipment:**

A completely automatic device is one, which will judge the relative finish and determine the elapsed time of each swimmer in a race. Judging and timing should be

to two decimal places of a second. When timing to 1/1000 sec. is used, it may be shown only on the electronic printout. Any equipment that is installed must not interfere with the swimmers' starts, turns, or the function of the overflow system.

B. **This equipment must:**

1. Be activated by the starter.
2. Have exposed wires on the pool deck if possible.
3. Be in a position to display all recorded information for each lane on a vertical or horizontal alignment.
4. Provide easy reading of a contestant's time (digital readings are recommended).

C. **The finish contact pads for this equipment** should have following features:

(1) The minimum measurement of the electronic pads will be: 340 cm. x 90cm x 1cm. They will extend 30 cm above 60cm below the surface of the water.

Note. Refer to 4-5 (ii)

(2) Tolerance. When installed the pool length must not be less than 50metres. The finish pad should be installed in a fixed position in the centre of the lane. The pads may be portable, allowing the pool operator to remove them when there is no competition.

(3) Marking. The markings on the pad should conform with and super-imposed on the existing markings by a 2.5cm black border.

(4) Sensitivity: The sensitivity of the pad should be such that it cannot be activated by water turbulence, but will be activated by a light hand touch. The pad should be sensitive on the top edge.

(5) Safety. The pad should be safe from the possibility of electrical shock and should have no sharp edge.

D. **The following accessories** are essential for a minimum installation

1. Printout of all information
2. spectator readout board
3. relay take-off judging
4. automatic lap counter
5. readout of splits
6. computer summaries
7. correction of erroneous touch
8. automatic rechargeable battery operation possibility
9. TV Tie-in system (optional)

Twenty-five (25) Automatic officiating procedure. When FINA approved automatic judging and timing equipment (automatic officiating device) is used in any competition the placing and timings so determined shall have precedence over the decisions of human judges and timers.

i) when the automatic machine records the place and timing of every contestant in a given race (preliminary heat or final).

a) Record automatic machine timings and places

b) Record human timings and places.

c) Complete comparison and ranking procedure of the machine timings and places.

ii) When the automatic machine fails to record the place and/or timing of one or more contestants in a given race (preliminary heat or final):

a. Record all available automatic machine timings and places
b. Record all human timings and places.
c. To determine official time within preliminary heat or final.
d. The official time for all contestants having a machine time will be that time.

e. The official time for all contestants not having machine timing will be the human timing.
f. To determine the official place within preliminary heat or final
g. A contestant with machine place must retain his relative order when compared with the other contestants having a machine place within that heat or final.
h. A contestant not having a machine place but having a machine time will establish his relative order by comparing his machine timing with the machine timing of other contestants.
i. A contestant having neither a machine place nor a machine timing shall establish his relative order by the human ballot system as described in sub-section (a) above.
j. To determine the relative order of finish for the combined heats of an event.
k. The relative order of all contestants having machine timing will be established by comparing their machine timings. If a contestant has an official machine timing which is tied with the machine timing (s) of one or more other contestants, all contestants having that timing shall be timed in their relative order of finish in that event.

Note: The relative order within a heat cannot be altered.

1) The relative order determined for a contestant, not having machine timing will be established by comparing the contestant's human timing with the human timings of all contestants in that event. If a contestant has an official human timings which is tied with the human timing (s) of one or more other contestants, all contestants having that timing shall be tied in their relative order within a heat cannot be altered.

DIVING RULES

All diving competitions organized at national or international level are subject to the following rules.

i) The springboards, the platforms and all diving installations shall be in accordance with these rules and shall be examined and approved by the delegates of FINA and a member to Technical Diving Committee before the competition begins.

ii) All diving installations shall be available for use by the participants in the competitions:

a. Not earlier than eight days before the competitions
b. During a contest day when no contest is in progress.
c. Seating positions shall be provided for all competitors, team and technical officials from which they may properly observe the diving competitions from the side

iii) The order of starting shall be decided by lot in both preliminary and final competitions

iv) The draw shall be made in public; and the place and time of the draw shall be stated in the announcements of the competitions.

v) Where the total number of dives to be executed in one diving competition is excessive, the competition shall be divided into several groups of dives, so that the number of dives to be executed in any one group shall be not more than 210.

vi) The dives in each group shall be executed by all the competitors consecutively and by the different groups shall be executed in separate sessions.

vii) The results of all dives shall be collected to find the placing.

viii) The referee may postpone a portion of a contest because of adverse weather or unforeseen circumstances.

ix) Points scored during that portion of a competition, through the latest full round of dives, completed prior to a declaration of postponement, shall be carried forward into the remaining portion of the competition whenever it is held.

x) Before each dive, the referee or the official announcer shall announce in the language of the host country, the name of the competitor and the dive which he is about to execute.

xi) The number of the dive to be performed, and the manner of execution thereof, shall be displayed on an indication board visible to both divers and judges, and shall take precedence over the verbal announcement of the dive.

DIVING COMPETITIONS

A. Springboard

i. The women's springboard competition comprises 10 different dives; 5 dives each selected from a different group, the total degree of difficulty of which shall not exceed 9.5 and 5 dives without limit of degree of difficulty, each selected form a different group.

ii. The men's springboard competition comprises 11 different dives; 5 dives each selected from a different group, the total degree of difficulty of which shall not exceed 9.5 and 6 dives without limit of degree of difficulty of which one dive shall be selected from each group pulus an additional dive which may be selected from any group.

iii. There may be preliminary and final competitions.

iv. The preliminary competition shall comprise a complete list of dives

v. The twelve byes divers in the preliminary competition shall compete in the final competition. The diver shall repeat the same dives in the same order if he has not delivered a new list of dives at the latest one hour after the end of the preliminary competition.

vi. Where a diver, due to unforeseen circumstances, is unable to compete in the final competition, the diver having placed next in the preliminary competition shall advance into the final in order to have 12 finalists.

vii. Where there is a tie for 12th place, all divers thus qualified shall compete in the final competition.

viii. The winner is the diver with the highest total points scored in the final competition

ix. In the Olympic Games and World Championships there shall always be a preliminary and a final competition.

B. Platform

i. The women's platform competition comprises 8 different dives; 4 dives each selected from a different group, the total degree of difficulty of which shall not exceed 7.6, and four dives without limit of degree of difficulty each selected from a different group.

ii. The men's platform competition comprises 10 different dives; 4 dives each selected from a different group, the total degree of difficulty of which shall not exceed 7.6 and 6 dives without limit of degree of difficulty each selected from a different group.

iii. There may be preliminary and final competitions.

iv. The preliminary competition shall comprise a complete set of dives.

v. The twelve best divers in the preliminary competition shall compete in the final competition. The diver shall repeat the same dives in the same order if

he has not delivered a new list of dives at the latest one hour after the end of the preliminary competition.

vi. Where a diver, due to unforeseen circumstances, is unable to compete in the final competition, the diver having placed next in the preliminary competition shall advance into the finals in order to have 12 finalists.

vii. Where there is a tie for 12th place, all divers thus qualified shall compete in the final competition.

viii. The winner is the diver with the highest total points scored in the final competition.

ix. In the Olympic Games and world championships there shall always be a preliminary and final competition.

x. The dives may be executed from the 5 metres, 7.5 metres or 10metre platform. In Olympic Games, world championships and FINA World Diving Cups only dives from the 10 metre platform shall be executed.

COMPETITION PROCEDURES

(i) Each competitor shall deliver to the diving secretary, not less than 24 hours before the commencement of each competition, a complete statement of the dives selected, on an official form signed by the competitor.

ii. On that form shall be stated, in order of execution of the dives:

(a) The number of each dive according to FINA diving tables;

(b) The execution of dive, that is (A) straight, (B) with pike, (C) with tuck, (D) free.

(c) Height of the board or platform.

(d) The degree of difficulty.

iii) Dives with limit shall not be repeated as dives without limit.

iv) All dives of the same number shall be deemed to be the same drive

v) Only such dives as are mentioned in the tables may be executed

vi) The number of the dive to be performed, and the manner of execution shall be displayed on an indicator board visible to both divers and judges, and shall take precedence over the verbal announcement of the dive. However, the list of dives referred to in rule 3.1 takes precedence over the indicator board and the verbal announcement.

vii) Where the closing time has passed, as provided in rule 3.1, no change shall be permitted in the list of dives to be performed, or in the order of execution of the dives.

viii) Each competitor is entirely responsible for the accuracy of the statements in the list.

ix) Unless the list is presented within the time required, a competitor shall not be admitted to the competition.

THE REFEREE

i) The referee shall manage the competition and shall ensure that the rules are observed.

ii) The referee may delegate an assistant to observe the performance of the divers.

iii) The referee shall inspect the list and where the statement in the list is not according to the rules the referee shall have it corrected before the beginning of the competition.

iv) The competitor shall be informed of the referee's decision as soon as possible.

v) If the referee because of adverse weather or other unforeseen circumstances finds it necessary, he may make a short break or postpone a portion of the competition. If possible, this should be done after a full round of dives.

vi) The competition shall then be continued where it stopped and points scored before the postponement shall be carried forward into the remaining portion of the competition whenever it is held.

vii) Where there is a strong wind, the referee may give all competitors the right to make a re-start without deduction of points.

viii) Before each dive, the referee or the official announcer shall announce in the language of the host country, the name of the competitor and the dive which he is about to execute. In competitions, where different platforms are used, the height of the platform shall be announced.

ix) The dive to be executed shall not be announced before the diver has assumed his position on the board or platform.

x) Where a dive is incorrectly announced, the diver, or his representative shall have it rectified at once, if possible before its execution.

xi) If the incorrectly announced dive is executed by the diver the referee may cancel it and have the correct dive announced and performed immediately.

xii) Each competitor shall be given sufficient time for the preparation and execution of the dive. But if it takes more than one minute after the referee has given a warning, the diver shall receive 0 points for the dive announced.

xiii) The dive shall be executed after a signal given by the referee, which signal is preferably by a whistle.

xiv) Where the competitor executes his dive before that signal is given the referee shall decide whether the dive shall be repeated.

xv) The referee may have a spoiled dive repeated if, in his opinion, the execution of the dive was influenced by exceptional circumstances.

xvi) Where it is quite clear that the dive has been performed in a position other than that announced, the referee shall repeat the announcement, and declare the maximum award shall be 2 points, before giving the judges the signal to show their marks.

xvii) Where the referee is certain that a diver has performed a dive of a number other than that announced, the referee shall declare it a failed dive.

xviii) Where the arms are held beyond the head in a feet entry, the referee shall declare the maximum award to be 4½ points.

xix) The referee may declare a dive to the failed if he considers that assistance has been given to the diver during the execution of the dive. The execution of the dive is considered to start when the signal is given by the referee.

xx) If a competitor disturbs a contest by bad behaviour or other activities the referee may exclude him from the competition.

METHOD OF MARKING

The judging panel shall consist of the referee and the judges.

i. For each competition of the Olympic Games and World championships, 7 judges recognized by FINA shall be appointed; for all other competitions 5 judges are sufficient.

ii. All judges appointed to officiate at the Olympic Games or World Championships must have functioned as judges in at least 4 open competitions of national or international level during the preceding calendar year.

iii. In Olympic Games and World Championships the panel of judges for a final contest shall consist of judges whose nationalities are different to those of any of the contestants in the final, if such judges are available.

iv. The referee may propose the removal of any judge, whose judgment he regards is unsatisfactory; and may propose another judge to replace him, subject to the approval of the appointed jury of appeal for that competition.

v. Such a change in judge shall take place only at the end of a session or when a group of dives have been performed by each competitor.

vi. For Olympic Games and World Championships the scoring shall be shown by an electrical machine which displays the judges' awards simultaneously.

vii. The records for the contest shall be kept by two independent secretarial groups.

viii. The judges shall be placed separately, by the referee and preferably on each side of the diving board, if practicable; but where this is not practicable, they shall be placed separately, by the referee and preferably on each side of the diving board, if practicable; but where this is not practicable, they shall be placed together on one side.

ix. Once placed, a judge shall not change his position, except at the direction of the referee, and that too in exceptional circumstances.

x. The position of each judge shall be identified by a distinctive number.

xi. After each dive, on a signal given by the referee, each of the judges, without communicating with one another, shall immediately and simultaneously, and in a distinct manner indicate the mark awarded by him.

xii. The judges' awards shall be dictated one by one, in the same consecutive order to the first secretarial group, who shall place them on their score sheet and cancel the highest and lowest awards.

xiii. The second secretarial group shall enter on their score sheet the awards as shown by the judges.

xiv. Where two or more awards that are to be cancelled are equal, either of them can be cancelled.

xv. The secretaries shall independently state the total of the remaining awards and multiply it by the degree of difficulty to determine the score for the dive.

xvi. In contests where there are 7 judges, the score shall be divided by 5 and then multiplied by 3 in order to establish a comparable score obtained in contests where there are 5 judges.

Example:

5 JUDGES' AWARDS:		TOTAL DIFF	SCORE
7,6,6,5,4		= 17 x 2.0	= 34
7 JUDGES'AWARDS:	=	TOTAL DIFF	SCORE
8,7,7,7,7,7,6½		= 35 x 2.0 = 70	= 14 x 3 = 42

3) In order to facilitate the scoring computations a calculator or chart may be used.

xvii) The final result shall be obtained from the list of results as shown in the min minutes book at the end of the contest the final result will be announced.

xviii) At the end of the contest, the referee shall supervise the score sheets list of results in co-ordination with the two secretarial groups, and shall confirm the final result by signing the main minutes.

xix) the winner of the contest is the competitor who obtained the greatest number of points.

xx) When two or more divers score the same number of points, a tie shall be declared for that particular place.

Points or half points shall be awarded from 0 to 10 on opinion of the judges according to the following table:

Completely failed …….	0 points
Unsatisfactory……...	½ -2 points
Deficient……..	2½ - 4½ points
Satisfactory…….	5-6 points

Good …….. 8½ - 10 points

Very good …….. see also rule 30

xxi) When judging a dive, a judge must not be influenced by any factor other than the technique and execution of the diver. The dive is to be considered , accomplished without regard to the approach to the starting position or the difficulty of the dive or any movement beneath the surface of the water

xxii) The points to be considered are (a) run (b) the take off (c) the technique and grace of the dive the passage through the air (d) the entry of the water.

xxiii) A diver who refuses the execution of a dive shall receive 0 point.

xxiv) Where a judge is unable to continue to function after a competition has started, he shall be replaced by another judge, if possible of the same nationality.

xxv) Where a 'judge, by reason of illness or other unforeseen circumstances, has made no award for a particular dive, the average of the awards of the other judges shall be adopted as his award; and it shall be calculated to the nearest half-point or in any sideways position at the option of the dive

xxvi) Where the Referee is certain that a diver has performed a dive of a number other than that announced, the referee shall declare it a failed dive.

xxvii) Where a dive is performed clearly in a position than that announced, the dive shall be called unsatisfactory, the highest award for such a dive is two points.

xxviii) Where it is quite clear that the dive has been performed in another position, the referee shall repeat the announcement and declare the maximum award shall be two-points before giving the judges the signal to show their marks.

xxix) Where a dive is performed partially in a position other than that announced, the judges shall award up to a maximum of 4 points according to their opinion.

xxx) The Referee may have a spoiled dive repeated if, in his opinion the execution of the dive was influenced by exceptional circumstances

xxxi) The request for such repletion must be made immediately.

xxxii) Where a repetition of a dive is granted, the first dive shall be judged and the marks shall be noted, to be used if an eventual protest is accepted.

xxxiii) Where a judge considers that a dive of a different number has been performed he may award 0-point notwithstanding that the Referee has not declared it to be a failed dive.

xxxiv) Where a dive is incorrectly announced, the diver, or his representative shall have it rectified at once, if possible before its execution.

xxxv) If the incorrectly announced dive is executed by the diver the refree may cancel it and have the correct dive announced and performed immediately.

DIVING RULES

1) In the straight position, the body shall not be bent, either at the knees, or at the hips, the feet shall be together, and the toes pointed.

a) In straight dives with one half or full twist, the twisting shall not manifestly be done from the board.

b) In all flying somersault dives, a straight position shall be clearly shown for not less than half a somersault; and that position shall be assumed from the take-off except in dive No. 1051 in which the straight position shall be shown after one somersault has been completed.

c) In the pike position, the body shall be bent at the hips, but the legs must be kept straight at the knees, the feet shall be together and the toes pointed. The position of the arms is optional.
d) In the tuck position, the body shall be compact, bent at the knees and hips with the knees and feet together, hands on the lower legs and toes, pointed.
e) In the free position, the body position is optional but the legs shall be together and toes pointed.

2) In pikes dives, with twist, the twist shall not be started until there has been a marked pike position.
3) If a diver opens his knees in the tuck, the judges shall deduct from one to two points.
4) In somersault dives with twist, the twist may be performed at any time during the dive.
5) Where a twist is greater or less than that announced by 90 degrees or more the referee shall declare it a failed dive.
6) The entry into the water shall in all cases be vertical, or nearly so, with the body straight, the feet together and the toes pointed.

a) All head first entries shall be executed with the arms stretched beyond the head in a line with the body, with the hands closed together.
b) All feet first entries shall be executed with the arms close to the body, and no bending at the elbows.
c) Where the arms are not in the correct position on entry into the water, each judge shall deduct from 1 to 3 points from his award according to the circumstance.

7) The diving illustrations serve as guides only and the position of the arms is at the choice of the diver except in tuck position and in the entry.

8) A dive is finished when the whole body is completely under the surface of the water.
9) Where the arms are held beyond the head in a feet first entry, the dive is not to be considered satisfactory and the highest award for such a dive is 4½ points.

EXECUTION OF THE DIVE

Dives shall be executed and judged on the following principles;

(i) The starting position shall be free and unaffected
(ii) The starting position in standing dives shall be assumed when the competitor stands on the front end of the board or platform.t
(iii) The body shall be straight, head erect, with the arms straight on the sides or above the head or in any sideways position of the option of the diver.
(iv) The dive commences when the arms leave the starting position
(v) Where the correct starting position is not assumed, each judge shall deduct 1 to 3 points from his award, according to circumstances.
(vi) The starting position of a running dive shall be assumed when the competitor is ready to take the first step of the run.
(vii) Forward take-off dives from the springboard may be performed either standing or running at the option of the diver.
(viii) A prior declaration of the manner of take-off from the springboard is not required.
(ix) The judges shall award points for a standing dive, bearing in mind the height and standard of execution which might be expected from a running dive.
(x) During the competition, a driver may not bounce on the springboard, until the score of e the previous diver has been announced.
(xi) The run shall be smooth, straight, and without hesitation.

(xii) In a running dive, from either the springboard or the platform, the diver shall take at least four steps in all, including the hurdle.

(xiii) Where a diver takes less than four steps, or where he stops his run before the end of the board and then continues the referee shall deduct two points from the award of each judge

(xiv) The take-off shall be bold, reasonably high and confident.

(xv) In running dives, the take-off from the springboard must be from both the feet simultaneously, or the referee shall declare it a failed dive; but from platform, the take-off can be from one foot.

(xvi) When executing a standing dive, the diver must not bounce on the board before the take-off otherwise the referee shall declare it a failed dive.

(xvii) If in the course of executing a running dive, the diver stops before the end of the board, or makes more than one jump on the same spot before the final take-off, the referee shall declare it a failed dive.

(xviii) Where a diver, preparing for a backward take-off, lifts his feet slightly off the board, that shall not be considered to be a bounce, but an involuntary movement and each judge shall deduct from his award according to his individual opinion.

(xix) Where, in any dive, the diver touches the end of the board, or dives to the side of the direct line of flight, indicating that he was too close to the board for proper execution, no matter how well the dive may have been executed, each judge shall exercise his own wisdom regarding the deduction to be made.

(xx) The starting position in an arm stand dive shall be

(a) assumed when both feet off the platform;

(b) the approach to the balance position shall not be taken into consideration;

(c) where, in an arm stand dive, a steady balance in the straight position is not shown, the judges shall deduct 1 to 3 points.

(xxi) A diver who loses his balance and makes s second attempt shall receive 2 points less than if he had obtained his balance at the first attempt.

(xxii) The deductions, under (xxi) shall not be made by the judges, but shall be announced by the referee, who shall subtract 2 points from the award of each judge.

(xxiii) Where the second attempt to obtain a balance is unsuccessful, and the feet return to the platform, the referee shall declare it a failed dive.

(xxiv) The penalties in above three clauses apply also to a restart in a standing dive after the arm swing has commenced, and to restart in a running dive after the run has commenced

(xxv) Where there is a strong wind, the refree may give all competitors the right to make a restart without deduction of points.

(xxvi) During the passage through the air , the body can be carried (a)straight (b) with pike (c) with tune or (d) free position.

BACKSTROKE SWIMMING)

Backstroke is one of the strokes in swimming. Like the front crawl, it is a popular stroke because of the ease in which it is learnt. The backstroke is the only competitive stroke that is done in a back lying position. The stroke can be performed by both children and adults. It can be used for recreational and competitive purposes.
As in the front crawl stroke, this stroke is an alternating pull and recovery arm movement. It is performed with an alternating up and down leg kicks.

Backstroke also sometimes called back crawl is one of the three swimming styles regulated by FINA, and the only regulated style swum on the back. This has the

advantage of easy breathing, but the disadvantage of not seeing where the swimmer heading to. It is also the only completion swimming style that starts in the water. The swimming style is similar to an *upside down* front crawl. Both backstroke and front crawl are long-axis strokes.

Description of the backstroke

The backstroke or back crawl is rather like the front crawl stroke. Their similarity is that both consist of an alternating arm stroke and a continuous up and down kicking actions of the leg in the backstroke. The face is clear off the water and it presents fewer breathing problems. Many individuals and this stroke the easiest to learn because.

a. It utilizes to the maximum the floating position for the body.It provides an added skill of coordinated breathing which is a problem in the front crawl stroke.

b. Backstroke becomes relatively easier when you have been able to master floating on the back.

c. You can easily move yourself through the water by use of the elementary stroke.

Body position in water for a backstroke

In backstroke swimming, the body position should be back completely flat in water while in water, the following body position should be observed.

a. Legs straight and together with toes pointed

b. Arms at the sides

c. Lie back flat in water

d. Head resting flat on the water

e. Hips as high as possible close to the surface with the chest almost out of the water.

f. The head should be far enough back in the water for your eyes to point directly up. However, there may be a tendency to ‘sit’ with the body bent at the hips, if this happens; efforts should be made to correct the mistake. Try as much as possible to guard against the tendency to ‘sit’.

Skill practice in Backstroke

The backstroke practice will be carried out under such specified phases as leg action, arm action, pull and push action of the arm, recovery and coordination. The leg action is an alternating up and down kicking movement in water, starting from the hip. Its main function is to assist in maintaining a horizontal body position and to balance the strong pulling action if the arms. It also provides some propulsion, which is obtained on the up and down kick action of the leg

Practice to Swim in an imaginary water by lying back flat on a table. Legs free to move in any direction as if in water.

Practice the following:

1. Start the downward movement with a slight bending od the knee
2. Finish with a whip-like upward action of toes and ankles
3. Straighten the knee in the upward movement.
4. Try and make the toes come close to the surface, making a splash.
5. The toes should remain pointed and turned slightly inwards.
6. The feet should pass close to each other as, they move up and down.

Practice II:

In shallow water do the following practice:

1. Hold a float firmly across your chest with both hand.
2. Now lie on your back in water and try the up and down kick of the legs

3. You can keep your head up slightly at firs so that you can see if your leg action is right

4. Practice kicking along the width of the shallow pool until you can do a smooth continuous kick.

Leg action in backstroke

Arm Action

Most of the propelling force in backstroke comes from the arm action. The arm works alternately, pushing the water back. The arm work alternately with one pulling as the other is recovering. The arm action is here considered in three phases: entry into water, pull and push of the arm in water and recovery.

Arm entry into water

The arm and hand which is kept straight on lying back flat in water enters the water behind the head. The arm in stretched position is kept close to the ears as much as possible. The hand move into the water first. The wrist is cocked sideways to allow fingers to enter the water before the wrist. See Fig. 5.2.

Arm action (entry into water)

Pull and Push of arm in water

In order to propel the body in water, the arm must move from the starting position. The starting position of the arm is behind the head fully stretched and a little below the surface of the water. This is the ‘Catch’ position for the backstroke. The ‘pull’ starts from here with a downward movement of the pull hand. This is transferred into a ‘push’ towards the thigh.

For a pull and push movement of the arm do the following:

Practice III:

As you lie on a table, do the following:

1. Lie on your back on a table; keep your arm straight behind your head until it is level with the shoulder.
2. Bend your elbow hand push water directly down the body line
3. Push the arm towards the thigh.
4. Try and keep your wrist firm and repeat the movement over and over.

Leg action practice sequence in backstroke

Recovery/Breathing

After the complete action of the arm in pull and push movement, the hand leaves the water. The arm again returns to the water at the point of entry into water. This is the recovery phase.

Breathing – in takes place during recovery of one arm and breathing – out during the recovery of the other arm.

Coordination of the arm and leg actions:

The coordination of arm and leg action is important to perform a perfect backstroke.

You should observe the following:

1. Six beats (up and down) of the legs should normally occur during one complete arm cycle.
2. Kick opposite leg to one arm downwards at the start of each arm pull. This will help you to balance n the body as in walking and running (See fig 5.3).

Coordination of arm and leg actions.

Backstroke Arm Action Sequence

To enable you execute a perfect backstroke in swimming, the arm movement must be coordinated in a sequential order. You should note that one movement action leads to the other without a break in continuity. Study and practice the sequentially listed movements below

1. Lie flat in water on your back with one arm stretched behind the head in a catch position.
2. Move the non-pulling arm up vertically while the pulling arm bends.
3. The pulling arm bends and passes the shoulder and now straightens
4. The recovering from (non-pulling arm) move from vertical starting position.
5. The right arm recovers vertically, and the pulling bends
6. The alternative positions, the left arm now pull in turn.

Coordination of arm and leg actions.

You should note and practice the above arm action, relating point 1 to 6 to the diagram.

Backstroke Leg Action Sequence

1. Lie on your beck legs fully stretched
2. Kick legs in alternating cider with movement starting rom the hips
3. As the right leg kicks down the left arm moves up to maintain balance
4. The leg kicks becomes slightly diagonal as the body rolls in water
5. The toes should not touch the surface of the water.

Speed and ergonomics

Backstroke is the second slowest stroke after breaststroke. The maximum swimming speed is around 1.84 meter per second. Due to its position on the back, backstroke uses different muscles in the upper body than other styles.

Technique

In the initial position, the swimmer lies flat on his back, arms stretched forward, and legs extended backwards.

Arm movement

In backstroke, the arms contribute most of the forward movement. The arm stroke consists of two main parts: the power phase (consisting of three separate parts) and

the recovery. The arms alternate so that always one arm is underwater while the other arm is recovering. One complete arm turn is considered one cycle. From the initial position, one arm sinks slightly under water and turns the palms outward start the Catch phase (first part of the power phase). The hand enters downward about ten inches, catching the water.

During the power phase the hand follows a semi-circular path from the Catch to the side of the hip. The palm is always facing away from the swimming direction, and the elbow always points downward towards the bottom of the pool. This is done so that both the arms and the elbow can push the maximum amount of water back in order to push the body forward. At the height of the shoulders the upper and lower arms should have its maximum angle of about 90 degrees. This is called the Mid-Pull of the power phase.

The Mid-Pull phase consists of pushing the palm of the hand as far down as possible with the fingers pointing upward. Again, the goal is to push the body forward against the water. At the very end of the Mid-Pull, the palm flaps down for a last push forward down to a depth of 45 cm, creating the Finish of the Power phase. Besides pushing the body forward, this also helps with the rolling back to the other side as part of the body movement. During the power phase, the fingers of the hand can be slightly apart, as this will increase the resistance of the hand in the water due to turbulence.

To prepare for the recovery phase, the hand is rotated so that the palms point towards the legs and the thumb side points upwards. At the beginning of the recovery phase of the one arm, the other arm begins its power phase. The recovery arm is moved in a semicircle straight over the shoulders to the front. During this recovery, the palm rotates so that the small fingers enters the water first and the palms point outward. After a short gliding phase, the cycle repeats with the preparation of the next power phase.

A variant is to move both arms synchronized and not alternating, similar to an upside down butterfly stroke. This is easier to coordinate, and the peak speed during the combined power phase is faster, yet the speed is much slower during the combined

recovery. The average speed will usually be less than the average speed of the alternating stroke. Another variant is the old style way of swimming backstroke, where the arm movement formed a complete circle in a windmill type pattern. However, this style is nowadays no longer used for competitive swimming, as a lot of energy is spent on pushing the body up and down instead of forward. Furthermore, the added strain on the shoulder is considered less than ideal and can lead to injuries.

It is also provide to move only one arm at a time, where one arm moves through the power and recovery phases while the other arm rests. This is slow, but it is used frequently to teach students the movement, as they have to concentrate on only one arm.

Leg movement

The leg movement in backstroke is similar to the flutter kick in front crawl. They make a small contribution to the forward speed, yet are very significant for stabilizing the body. The leg stroke is also alternating, with one leg sinking down straight to about 30 degree out of the horizontal. From this position the leg makes a fast kick upward, slightly bending the knee at the beginning and then stretching it again in the horizontal. However, there are also frequent variants with four or only two kicks per cycle. Usually, sprinters tend to use 6 kicks per cycle, whereas long distance swimmer may use less.

It is also possible to use a breaststroke kick or butterfly (dolphin), kick, although this is rare except the butterfly kick after the start and turns. This dolphin kick is essential for many top athletes because it is the fastest part of the race. It may also constitute the majority of the race. i.e. (in the 100 yd backstroke the swimmer may kick underwater dolphin for 15 yards per length which equates to as much as 60 yds kicking in a 100 yard race). A great example of this is Olympic gold medalist Natalie Coughlin. Breaststroke kicks are most comfortable if the arms are used synchronized, as the breaststroke kick has difficulty to compensate for a rolling movement due to alternating

arm cycles. The butterfly kick can be done slightly to one side depending on the rolling of the body.

Breathing

Breathing in backstroke is very easy, as the mouth and nose are almost always over water. Competitive swimmers breathe in through the mouth during the recovery of one arm, and breathe out through the mouth and nose during the pull and push phase. This is done to clear the nose of water.

Body movement

Due to the asynchronous movement of the arms, there is a roll of the body around its own axis. This is normal and helps swimming effectively. The overall position of the body is straight in the horizontal to reduce drag. Beginners frequently let their posterior sink too low and increase drag, because to avoid this the upper legs have to be moved to the extreme down position at each kick even with a little help by the back and the foot tips have to be fixed in the extreme lower position. And the head is held out of the water to act as a counter-weight.

Start

The backstroke start is the only start from the water. The swimmer faces the wall and grabs part of the start block or the wall with his hands. Ideally, there are grips on the block for this purpose. The legs are placed in shoulder width onto the wall with both heels slightly off the wall. The moment before the start the swimmer pulls his head closer to the start block, while keeping the knees bent at a 90 degree angle. Some swimmers prefer to keep one foot slightly lower than the other during the start; however, keeping both feet at an equal level is perfectly acceptable. For the take-off, the swimmer pushes his hands away from the block, and swings his arms around sideways to the front. At the

same time he throws his head to the back. Only a minimal delay afterwards, the swimmer pushes himself away from the wall with his feet. Ideally, the swimmers back is arched during the airborne phase so that only the feet and the hands touch the water while the rest of the body is above the water line. This reduces the drag and allows the swimmer to start faster.

After the start, the swimmer is completely underwater. Due to the increased resistance at the surface, the speed under water may for an experienced swimmer be faster than at the surface. Therefore, most experience swimmers stay in backstroke competition under water up to the limit set by FINA to be 15 meter after the start and every turn. Most swimmers swim a butterfly kick under water, as this provides more forward movement than the flutter kick. The underwater phase includes the risk of water entering the nose, which gives and unpleasant feeling. Most swimmers breathe out slightly through the nose to stop water from entering. It is also possible to use a nose clip. Some swimmers can close their nostril with their upper lips.

The swimmer must break the surface before 15m. the swimmer starts swimming with one arm, followed by the other arm with half a cycle delay. The swimmer continues in regular swimming style, staying on the back for the entire time except the turns. One part of the swimmer must break the surface at any time.

Turn and finish

Approaching the wall has the problem that the swimmer cannot see where he is going. Most competitive swimmers know how many strokes they need for a lane, or at least how many stroke after the signal flags or the change in color of the separating lines. Turning the head is also possible, but shows the swimmer down. When approaching the wall, the swimmer is allowed to turn to the breast and make one push/pull phase with one arm. Next the swimmer makes half a tumble turn forward, resting the feet against the wall. The arms are in the forward position at this time and the swimmer pushes himself

off the wall. Similar to the start, the swimmer can remain up to 15m under water, with most swimmers using a butterfly kick for speed. For the finish, the swimmer must touch the wall while lying on his back, less than 90 degrees out of the horizontal.

Competitions

There are three common distances swum in competitive backstroke swimming, both over either a long course (50m pool) or a short course (25m pool). The United States also employs short course yards (25 yard pool). Of course, other distances are also swum on occasions.

- 50m Backstroke
- 100m Backstroke
- 200m Backstroke

Backstroke is also part of the medley over the following distance:

- 100m Individual Medley (short 25m pool only)
- 200m Individual Medley
- 400m Individual Medley
- 4 x 100m Medley Relay

These are the official FINA rules. They apply to swimmers during official swimming competitions.

a. Prior to the starting signal, the swimmers shall line up in the water facing the starting end, with both hands holding the starting grips. Standing in or on the gutter or bending the toes over the lip of the gutter is prohibited.

a. At the signal for starting and after turning the swimmer shall push off and swim upon his back throughout the race except when executing a turn. The normal position on

the back can include a roll movement of the body up to but not including 90 degrees from horizontal. The position of the head is not relevant.

b. Some part of the swimmer must break the surface of the water throughout the race. It shall be permissible for the swimmer to be completely submerged during the turn, at the finish and for a distance of not more than 15 meters after the start and each trun. By that point the head must have broken the surface.

c. During the turn the shoulders may be turned over the vertical to the breast after which a continuous single arm pull or a continuous simultaneous double arm pull may be used to initiate the turn. Once the body has left the position on the back, any kick or arm pull must be part of the continuous turning action. The swimmer must have returned to the position on the back upon leaving the wall. When executing the turn there must be a touch of the wall with some part of the swimmer's body.

d. Upon the finish of the race the swimmer must touch the wall while on the back. The body may be submerged at the touch.

Common faults and correction in Backstroke

Generally, faults develop in swimming because of fear and partly because of lack of coordination and flexibility. Also most faults are due top lack of understanding. Some common faults identified in backstroke are stated here with possible corrections.

Fault 1

- Keeping the hip too low in water
- **Correction:** Keep head flat in water and look upwards.

Fault 2

- Legs too deep in water
- **Correction:** Keep your head flat in water and look straight up and maintain strong leg kicks

Fault 3

- Knees coming out of water surface
- **Correction:** Kick with straight stiff legs

Fault 4

- Kicking with legs too wide apart.
- **Correction:** kick with toes pointed

Fault 5

- Hand entering the water too wide apart

Correction: Mobilize the shoulder do some shoulder mobilizing exercises.

BREAKSTROKE

Like the front crawl backstroke, breaststroke is a swimming skills universally enjoyed by many swimmers. Through the ages, breaststroke swimming has extremely popular and has well become an important skill in swimming.

Historically records show that breaststroke has been known in several countries all over the world. Captain Mathew Webb swain the English Channel in breaststroke as far back as 1876.

Today, both children and adults alike are known to use breaststroke in swimming. Breaststroke is used for recreation purposes, survival swimming and competitive swimming. In recent years, breaststroke has undergone a number of technical changes. The stroke has a relaxed and unhurried nature which can be sustained for a long period of time during long distance swimming without undue fatigue. Breaststroke is a swimming style swum on the breast. It is the most popular recreational style due to its stability and the ability to keep the head out of the water at all times. In most popular classes,

beginners learn either the breaststroke or the front crawl first. In competitive swimming however it is regarded as one of the most difficult strokes requiring comparable endurance to other strokes.

Description of Breaststroke

The breaststroke is a pull, kick and glide which is done entirely on the prone position. The stroke is performed by a simultaneous pull of both arms followed by a simultaneous kick of both legs and fully body extension into a glide. The breaststroke is a competitive swimming stroke which has many varied styles. One fact common to all the varied styles is parallelism (two things that move side by side and will never meet). Both arms and both legs must work simultaneously and remain parallel to each order and to the surface of the water throughout the stroke. In breaststroke body must perfectly on the breast with shoulders in line with the water surface. There is need for a good boy position in water in order to maintain balance and ensure safety in swimming.

Body position in water for Breaststroke swimming

Breaststroke is enjoyed by many swimmers because the stoke can be performed with the head clearly out of water. This however is not the best position. The head should be in line with the body and held very steadily throughout the stroke. In breaststroke, the body lies almost flat just under the surface of the water in streamlined position as much as possible.

The legs however have to be held lower than the head so that during the preparation for the backward kick the heels do not come out of the water surface. The arms should remain below the water surface at all times.

NOTE: the best way to improve your body position for the breaststroke is to concentrate on it while performing the whole stroke, try swimming a few meters and think about these points:-

1. Keep your chin on the surface of the water, your hard steady and your eyes fixed on a point directly front of you.
2. Keep your lips close to the surface
3. At the end of the leg kick your body should be perfectly streamlined with arms and legs fully extended.
4. Then begin the arm pull.

Teaching the Breaststroke.

The breaststroke is explained in two main parts, the leg action and arm action. This will ensure clarity of skill.

Leg Action: The legs are the main source of propulsion in breaststroke

1. Establish a basic symmetrical kick with flat action feet. Leg action is here considered in two parts.

i. The recovery phase
ii. Propulsive phase

i. The Recovery Phase

From the extended, streamlined position emphasis should be on

i. Toes pointing
ii. Bend the knee, keeping them fairly together
iii. Draw the heels up towards your buttocks they should be at the same depth and about hip width apart.
iv. Then turn the feet outwards ready for the push.

ii. The Propulsive Phase

This is the stage in which the body is helped to move the legs acting as a pushing force. The movements of the legs are:

1. From the position of heel drawn up towards the buttocks, feel is driven backward and outward against the water
2. As you drive your feet back straighten your legs and at the end kick.
3. The toes should be pointed at full stretch.
4. Whip the feet powerful together with the leg still, completely straight
5. Return the body back to streamline and position again ready for the recovery.

Practice Leg Action

1. Out of water

i. Show how toes point

ii. Show how direct feet outwards

iii. Show how to draw heels to the buttocks

2. In water

i. Gasping the side rails, perform leg actions

iii. (Ponds and streams) use inflated car tube in water and be flat face down.

while you float do the following:

a. Think about drawing your heels up to your buttocks

b. Think about the feet outwards at the end of recovery

c. Think about kicking with your heels rather than your toes

d. Think about bringing your knees up fairly close together

e. Think about whipping the legs together and pointing your toes at the end of the kick.

Now try doing the whole kick again

Arm Action

The arms perform three functions in breast stroke

i. They help to maintain balanced stream lined position in water.

ii. Assist in forward propulsion

iii. Enable you to obtain a convenient breathing position

The arm action also consists of two parts; pull and recovery phases. The arm action is a vigorous movement of the whole arm.

The Pull: The pull starts from the extended position

i. Palms turn outwards

ii. The arms pull sideways

iii. Backward and downward

iv. Arms reaches a position in front of and slightly outside the shoulder line

Recovery: The arm should move directly into the recovery from the pull with a smooth action. The recovery starts with a forward whirling movement of the hands whirling movement of the hands which are brought and usually palms should face downwards.

Practice Arm Action

Out of water

i. Stand in front of large mirror; practice the arm movement until it looks right.

ii. Think about turning the palms of your hands outwards at the beginning of the pull in water (shallow water) so that your shoulders are just breaking the water surface. Bend forward and practice the arm action.

iii. Working with the side rail and a floater; hook your feet over the rail and lie on your front in the water.

iv. Think about keeping your elbows into your sides during the recovery of your arms.

v. Lie on an inflated car tube, push off on your front and swim across the pool. Think about pulling and reaching forward after each pull

Breathing: There are three points at which it is possible to take a breath during the stroke.

i. Possible at the end of the kick and before beginning the arm pull

ii. While the arms are pulling

iii. Possible at the end of pull just before the arms begin their recovery.

Co-ordination:

Breast stroke may be difficult to co-ordinate. However remember to do the following:

i. The arm pull should only begin after the legs have come together at the completion of the kick

ii. While the legs are kicking the arm will covers and begins to streamline.

iii. Do try and keep up a steady rhythm.

iv. Kick – Pull – Breathe

v. Do not rush the movement

You should try and observe the point above the combination of the arm and legs. Breathing should present no great difficulty.

Arm and Leg Movement Sequence in Breast Stroke.

The following arm and leg**.** Movement sequence when observe will ensure perfect co-ordination in Breast Stroke swimming.

1. Both arms and legs perform simultaneous movements, arm pulling as the legs trail the legs driving the arms extend.

2. The body should be streamlined and horizontal. The eyes look ahead along or just under the water surface. The arms are straight in front, and close together. The legs trail

3. The arms pull together, downwards sideways and backward. The legs continue to trail.

4. The hand remains in front of the shoulder, as arms start to recover.

5. The arm recovery continues, and the lest are now drawn up towards the seat.

6. With the feet turned out wards the lets drive backwards and slightly outwards. The arms are nearly fully extended.

7. The vigorous leg drive brings the feet round in a narrow sweep until they come together again with toes pointing backwards

Common faults in breaststroke.

The most common faults in breast stroke swimming are:

1. Bending the knee too, much under the body
2. Kick too wide
3. Failing to turn the feet outwards for the backward kick
4. Kicking with the toes rather than heels
5. Kicking legs downward rather than backwards
6. Kicking legs and pulling with the arms simultaneously.

Corrections

Since most faults are due to lack of understanding as well as and inability to imitate, therefore special efforts should be made to help the swimmer understand exactly what is required in each situation.

1. To correct the kicking faults, repeats kicking practice all over again and again and make sure you master it.

2. To correct arm movement faults, repeat arm action practice again and again and make sure you understand and master the movement.

3. Whenever available, watch a motion picture film of a breaststroke swimmer to see the correct arm and leg actions, and correct body position.

4. Now try and imitate, and swim correctly.

Speed and ergonomics

Breaststroke is the slowest of the four official styles in competitive swimming. the fastest breaststroke swimmers can swim about 1.57 meters per second. Although, it is the slowest of the four competitive strokes. It is also often the hardest to teach to rising swimmers due to the importance of timing and the coordination required to move the legs properly.

Breaststroke is swum while leaning on the chest, with the arms only breaking the surface of the water slightly and legs always underwater, while the head is underwater for the second half of the stroke. The kick is sometimes referred to as a “frog kick” because of because of the resemblance to a frog’s kick, but when done correctly it is more of “whip kick” due to the whip-like motion that moves starting at the core down through the legs.

A special feature of competitive breaststroke is the underwater pullout. From the streamline position, one uses the arms to pull all the way down past the hips. As the arms are pulling down, one download dolphin kick is allowed though still optional. The pullout at the start and after the turns contributes significantly to the swimming times. Swimming leisure breaststroke requires the least amount of strength and energy when done at race pace.

Techniques

The breaststroke starts with the swimmer lying in the water face down, arms extended straight forward and legs extended straight to the back.

Arm movement

There are three steps to the arm movement: out sweep, in sweep, and recovery. The movement starts with the out sweep. From the initial position, the hands sink a little bit down and the palms face outward, and the hands move apart. During the out sweep the arms stay almost straight and parallel to the surface. The out sweep is followed by the in sweep, where the hands point down and push the water backwards. The elbows stay in the horizontal plane through the shoulders. The hand push back until they are at approximately the vertical plane through the shoulders.

At the end of the in sweep the hands come together with facing palms in front of the chest and the elbow are at the side at the body. In the recovery phase the hands are moved forward into the initial position under water. The entire arm stroke starts slowly, increases speed to the peak arm movement speed in the insweep phase, and slows down again during recovery. The goal is to produce maximum thrust during the insweep phase and minimum drag during the recovery phase.

As a variant, it is possible to recover the arms over water. This reduces drag, but requires more power. Some competitive swimmer use this variant, in competition. Another variant is the underwater pull-down, similar to the push phase of a butterfly stroke. This stroke continues the insweep phase and pushes the hands all the way to the back to the sides of the hip. This greatly increases the push from one stroke, but also makes recovery more difficult. This style is well suited for underwater swimming. However, FINA allows this stroke only for the first stroke after the start and each turn. In late 2005, FINA has also introduced a new rule on which allows you to perform a single downward kick after the push off the wall

Tips: (1) the arms start slowly and speed up during the phases.

(2) The arms are never paused until they reach the front and the swimmer is in the glide.

Leg movement

The leg movement, colloquially known as the “frog kick”, consists of two phases bringing the feet into position for the thrust phase and the in sweep phase. From the initial position with the leg stretched out backward, the feet are moved together towards the posterior, while the knees stay together.

In the thrust phase, the legs are moved elliptically back to the initial position. During this movement, the knees are kept together. The legs move slower while bringing the legs into position into thrust phase, and move very fast during thrust phase, and move very fast during the thrust phase. Again, the goal is produce maximum thrust during the in sweep phase and minimum drag during the recovery phase. As a variant, some swimmers move the knees apart during the preparation phase and keep them apart until almost the end of the thrust phase. Moving both knee and foot outwards like a real frog avoids the extreme rotation in lower leg.

Another variant of the breaststroke kick is the scissor kick; however, the kick violates the rules of FINA as it is no longer symmetrical. Swimming teachers put a great effort into steering the students away from the scissor kick. Some swimming teachers believe that learning the front crawl first gives a higher risk of an incorrect scissor kick when learning breaststroke afterwards.

Breaststroke can also be swum with the dolphin kick in butterfly, yet this also violates the FINA rules. One kick is allowed, however, at the start and at the turn providing that it is part of the body’s natural movement. The harmonic movements of the dolphin kick and flutter kick are in contrast to the breaststroke whip kick, which really deserves the name kick. Scissor kick and frog kick are intermediate. Humans have strong muscles in the legs and would need swim fins (like a frog) to bring all their power into

the water and stand with the sole of the feet on the water. The toes are bent, the feet point 45degree outwards, the sole point backwards, to mimic a hydrofoil. While closing a V shape to the rear a small “lifting” force can be felt.

Unlike in the other kicks, the joints are moved into extreme. Before the kick the knee is maximally turned to the inside so that the soles clap together to achieve a nozzle effect like in a jelly fish. Therefore training involves getting flexible in addition to fitness and precision. The sudden sideway stress on knee at the kick can lead to uncomfortable noise and feeling for the beginner and to wear for the senior.

On recovery the lower leg stays in the wake of the upper leg. Around 2000 the distance between the knees in the recovery phase was reduce to harmonize it with the optional body undulation.

Breathing

The best way to breath during breaststroke is to let your head follow your spine. When your elbows have reached the line of your eye and have begun to rise your head starts to lift. If you use your high elbow as a hinge for the inward sweep of your hand and forearms, you’ll create the leverage you need to use your abdominal muscles to bring your hips forward. Breathing is usually done during the beginning of the insweep phase of the arms, and the swimmer breathes in ideally through the mouth.

Some people keep their head above water at all times when they swim breaststroke. This is not only difficult and unpleasant, but also dangerous for the spine. Swimming with te face held out of the water puts undue strain on the muscles of the neck and back which can lead to damage of the spine’s interior facet joints.

Body movements

The movement starts in the initial position with the body completely straight, the body movement is coordinated such that the legs are ready for the thrust phase while

the arms are halfway through the insweep, and the head is out of the water for breathing. The arms are recovered during the thrust phase of the legs. After the stroke the body is kept in the initial position for some time to utilize the gliding phase

Start

Breaststroke uses the regular start for swimming. Some swimmers use a variant called the frog start, where the legs are pulled forward sharply before being extended again quickly during the airborne phase of the start. After the start a gliding phase follows under water, followed by one downward butterfly kick, followed by one underwater pull-down and another gladding phase before the regular swimming, this is known as the pull-out. The downward butterfly kick was legalized by FINA and the NCCA un 2005, and remains optional. The head must break the surface during the second stroke.

Turn and Finish

For competitive swimming it is important that the wall at the end of the lane is always touched by both hands at the same time due to final regulations. The turn is initiated by touching the wall during the gliding or during the recovery phase of the arms, depending on how the wall can be touched faster. After touching the wall, the legs are pulled underneath of the body. The body turns sideways while one hand is moved forward along the side of the body. When the body is almost completely turned, the other hand will be swung straight up through the air such that both hands meet at the front at the same time. At that time the body should be almost in the horizontal and partially or totally submerged.

After the body is completely sub-merge, the podgy is pushed off the wall with both legs. Doing this under water will reduce the drag. After the gliding phase, an underwater pull-out is done, followed by another gliding phase and then regular swimming. The head

must break the surface during the second stroke. The finish is similar to the touching of the wall during a turn.

Competitions:

There are three common distances swum in competitive breaststroke swimming, both over either a long course (50 m pool) or a short course (25 m pool). Of course, other distances are also swum on occasions.

- 50 m Breaststroke
- 100 m Breaststroke
- 200 m Breaststroke

Breaststroke is also part of the medley over the following distances:

- 100 m Medley (short 25 m pool only)
- 200 m Medley
- 400 m Medley
- 4 x 100 m Medley

These are the official FINA rules. They apply to swimmers during official swimming competitions.

Breaststroke

1. From the beginning of the first arm stroke after the start and after each turn, the body shall be kept on the breast. It is not permitted to roll onto theback at any time. Throughout the race the stroke cycle must be one arm stroke and one leg kick in that order.
2. All movements of the arms shall be simultaneous and in the same horizontal plane without alternating movement.

3. The hands shall be pushed forward together from the breast on, under, or over the water. The elbows shall be under water except for the final stroke before the turn, during the turn and for the final stroke at the finish. The hands shall not be brought back beyond the hip line, except during the first stroke after the start and each turn.

4. During each complete cycle, some part of the swimmer's head shall break the surface of the water. After the start and after each turn, the swimmer may take one arm stroke completely back to the legs. The head must break the surface of the water before the hands turn inward at the widest part of the second stroke. A single downward dolphin kick followed by a breaststroke kick is permitted while the whole body is submerged.

5. The feet must be turn outwards during the propulsive part of the kick. A scissors, flutter or downward dolphin kick is not permitted except as in 4 above breaking the surface of the water with the feet is allowed unless followed by a downward dolphin kick.

At each turn and at the finish of the race, the touch shall be made with both hands simultaneously at, above, or below the water level. The head may be submerged after the last arm pull prior to touch, provided it breaks the surface of the water at some point during the last complete or incomplete cycle proceeding the touch.

BUTTERFLY STROKE

The butterfly stroke is sometimes called dolphin stroke because the basic movement is like a dolphin. The stroke originally developed from the breast stroke, but it has become a competitive stroke since 1956. It is fast and exciting both to watch and to swim, but it is fairly tiring.

The butterfly, (*fly* for short) is a swimming stroke swum on the breast, with both arms moving simultaneously. While other styles like the breaststroke, front crawl, or backstroke can be swum easily even by beginners, the butterfly requires very good

technique to be feasible. Many students consider it the most difficult style. It is the newest swimming style swum in competitions.

The basic body position for the butterfly stroke is as follows:

1. Keep your face and shoulders in the water during the arm action.
2. Keep your hips and buttocks close to the surface throughout the stroke
3. Kick powerfully and regularly to avoid sinking too low in the water.
4. You should aim to lift your body along the surface of the water when swimming the stroke , not up and over the water.
5. The stroke is swum face the water.

The Butterfly Stroke Sequence

Speed and ergonomics

The butterfly is the second fastest style after the front crawl, and is the fastest style regulated by FINA. The speed of top swimmers is around1.98m/s, close to the speed of front crawl swimmers (2.17m/s), and faster than the backstroke (1.84m/s) and the breaststroke (1.67m/s). the peak speed of the butterfly is even faster than that of the front crawl, due to the synchronous pull/push with both arms, yet since speed drops significantly during the recovery phase, it is overall slightly slower than the front crawl.

The breast stroke, backstroke, and front crawl can all be swum easily even if the swimmer's technique is flawed. The butterfly, however, is unforgiving of mistakes in style; it is very difficult to overcome a poor butterfly technique with brute strength. Most people consider it the most difficult swimming style, yet done correctly, competitive butterfly swimming requires less energy than the breaststroke. The main difficulties for students are the synchronous over-water recovery, especially when combined with breathing, since arms, the head and parts of the shoulder have to be fully lifted out of the water for these tasks.

Techniques

The butterfly technique with the dolphin kick consists of synchronous arm movement with a synchronous leg kick. Good technique is crucial to swim this style effectively. The wave-like body movement is also very significant, as this is the key to easy synchronous over-water recovery and breathing.

In the initial position, the swimmer lies on the breast, the arms are stretched to the front, and the legs are extended to the back.

Arm movement

The butterfly stroke has three major parts, the pull, the push, and the recovery. These can also be further subdivided. From the initial position, the arm movement starts very similarly to the breast stroke. At the beginning the hands sink a little bit down with the palms facing outwards and slightly down at should width, then the hands move out to create a Y. this is called catching the water.

The pull movement follows a semicircle with the elbow higher than the hand and the hand pointing toward the body centre and downward. You bill be forming the shape of an old-fashioned key hole during this pulling movement. The semicircle ends in front of the chin, with the hands close together so the swimmer can form a triangle with the fingers.

The push pushes the palm backward through the water underneath the body at the beginning and at the side of the body at the end of the push. The swimmer only pushes the arms 1/3 of the way to the hips, making it easier to enter into the recovery and making the recovery shorter and the breathing window shorter. The movement increases speed throughout the pull/push phase until the hand is the fastest at the end of the push. This step is called the release and is crucial for the recovery. The speed at the end of the push is used to help with the recovery.

The recovery swings the arms across the water surface to the front, with the elbows slightly higher than the hands and shoulders. The arms have to be swung forward fast in order to bring them to the front over the water. It is important not to enter the water too early, because this would generate extra resistance as the arms moved forward in the water against the swimming direction.

A high elbow recovery, as in front crawl, would save more energy, yet the movement restrictions in the shoulders do not allow this easily, and due to the synchronized movement it is not possible to roll around the shoulders as in front crawl. The arms enter the water with the thumbs first at shoulder width. A wider entry loses movement in the next pull phase, and a smaller entry, where the hands touch, wastes energy. The cycle repeats with the pull phase.

Generally, viewed from below, the arm movement forms a fat “keyhole” figure during the stroke cycle in the water. However, more recently, a straighter arm pull has been favored in competitive swimming.

Leg movement

The leg movement is similar to the leg movement in the front crawl, except the legs are synchronized with each other. The shoulders are brought above the surface by a strong up and medium down kick, and back below the surface by a strong down and medium up kick. A smooth undulation fuses the motion together.

The feet are pressed together to avoid loss of water-pressure. The feet are naturally pointing downwards, giving downwards thrust, moving up the feet and pressing down the head.

There is no actual stipulation in competitive butterfly rules that a swimmer make a fixed number of pulses in butterfly – the swimmer may kick as little or as much as he or she may wish. While competitive rules allow such a choice, the typical method of swimming butterfly is with two kicks.

Breathing

There is only a short window for breathing in the butterfly. If this window is missed, swimming becomes very difficult. Optimally, a butterfly swimmer synchronizes the taking of breaths with the undulation of the body to simplify the breathing process; doing this well requires some attention to butterfly stroke technique. The breathing process begins during the underwater "press" portion of the stroke. As the hands and forearm move underneath the chest, the body will naturally rise toward the surface of the water. With a minimum of effort, the swimmer can lift the head to break the surface fully. The swimmer breathes in through the mouth.

Experienced swimmers continue looking toward the bottom of the pool while they inhale to keep the body balanced and in a straight line. The head goes back in the water after the arms come out of the water as they are swinging forward over the surface of the water. If the head stays out too long, the recovery is hindered. The swimmer breathes out though mouth and nose till the next breath. Some swimmers breathe to the side as in the front crawl, but their timing is otherwise the same.

Normally, a breath is taken every other stroke. This can be sustained over long distances. Oftentimes, breathing every stroke slows the swimmer down. However, very experienced competitors may breathe every stroke. Other intervals of breathing practiced by elite swimmers include the "two up, one down" approach in which the swimmer breathes for two successive strokes and then keeps the head in the water on the next stroke, which is easier on the lungs. Swimmers with good lung capacity might also breathe every 3rd stroke during sprints or the finish. Some swimmers can even hold their breaths for an entire race if the distance is a short one.

Body movement

Swimming butterfly is difficult if t core is not utilized and correct timing and body movement makes swimming the butterfly much easier, the body moves in a wavelike

fashion, controlled by the core, and as the chest is pressed down, the hips go up, and the posterior breaks the water surface and transfers into a fluid kick. During the push phase and the chest goes up and the hips are at their lowest position. In this style, the second pulse in the cycle is stronger than the first pulse, as the second pulse is more in flow with the body movement.

Start

Butterfly uses the regular start for swimming. After the start a sliding phase follows under water, followed by dolphin kicks swum under water. Swimming under water reduces the drag from breaking the surface and is very economical. Rules allow for 15m of underwater swimming, before the head must break the surface, and regular swimming begins.

Turn and finish

During turns and during the finish, both hands must simultaneously touch the wall while the swimmer remains swimming face down. The swimmer touches the wall with both hands while bending the elbows slightly. The bent elbows allow the swimmer to push him or her away from the wall and turn sideways. One hand leaves the wall to be moved to the front underwater. At the same time the legs are pulled closer and moved underneath of the body towards the wall.

The second hand leaves the wall to be moved to the front over water. It is commonly referred to as an “over/under turn” or an “open turn”. The legs touch the wall and the hands are at the front. The swimmer sinks under water and lays on the breast, or nearly so. Then the swimmer pushes off the wall, keeping a streamline position with the hands to the front. Similar to the start, the swimmer is allowed to swim 15m underwater before the head must break the surface. Most swimmers dolphin kick after an initial gliding phase.

The finish requires the swimmer to touch the will with both hands at the same time, in the same horizontal plane.

Competitions

There are three common distances swum in competitive butterfly swimming, both over either a long course (50 m) or shot course (25m pool). Of course, other distances are also swum on occasions. For example, most NCAA competitions are swum in a 25m pool.

- 50 m Butterfly
- 100m Butterfly
- 200m Butterfly

The butterfly is also part of the Medley over the following distances:

- 100m Medley (short course 25m pool only)
- 200m Medley
- 400m Medley
- 4 x 100 Medley
- 4 x 200 Medley

These are the official FINA rules. They apply to swimmers during official swimming competitions.

- From the beginning of the first arm stroke after the start and each turn, the body shall be kept on the breast. Under water kicking on the side is allowed. It is not permitted to roll onto the back at any time.
- Both arms shall be brought forward together over the water and brought backward simultaneously through-out the race, except after the start and at turns

- All up and down movements of the legs must be simultaneous. The position of the legs or the feet need not be on the same level, but they shall not alternate in relation to each other. A breastroke kicking movement is not permitted.
- At each turn and at the finish of the race, the touch shall be made with both hands simultaneously, at, above or below the water surface.
- At the start and at turns, a swimmer is permitted one or more leg kicks and one arm pull under the water, which must bring him to the surface. It shall be permissible for a swimmer to be completely submerged for a distance of not more than 15 meters after the start and after each turn. By that point, the head must have broken the surface. The swimmer must remain on the surface until the next turn or finish.
- Only the meter distances are included in the official Olympics.

Freestyle swimming

Freestyle is one of the official swimming competitions according to the rules of FINA. Although it is technically not a style, its frequent use in this manner is evolving its original meaning. According to the Australian Macquarie dictionary, it is considered as a stroke also known as front crawl or overarm. As there are very few regulations about the way freestyle has to be sum, most swimmers choose to swim front crawl during freestyle, as this style is generally the fastest.

Technique

Freestyle swimming competitions can be any of the unregulated strokes such as front crawl, fog paddle, or sidestroke. Individual freestyle competitions can also be swum in one of the officially regulated strokes (breaststroke, butterfly and backstroke). For the freestyle part of medley competitions, however, one cannot use breaststroke, butterfly, or backstroke. Most competitive swimmers choose the front crawl during freestyle competitions, as this style provides the greatest speed. Freestyle competitions have also

been swum completely and partially in other styles, especially at lower ranking competitions. During the Olympic Games, front crawl is swum almost exclusively during freestyle.

Rules and regulation

Freestyle means *any style* for individual distances and *any style but breastroke, butterfly and backstroke* for medley competitions. The wall has to be touched at every turn and upon completion. Some part of the swimmer has to be above water at any time except for the first 15m after the start and every turn. This rule was introduced to avoid the dangers of swimmers passing out during underwater swimming.

The exact FINA rules are:

- Freestyle means that in an event so designated the swimmer may swim any style, except that in individual medley or medley relay events, freestyle means any style other than backstroke, breaststroke or butterfly.
- Some part of the swimmer must touch the wall upon completion of each length and at the finish.
- Some part of the swimmer must break the surface of the water throughout the race, except it shall be permissible for the swimmer to be completely submerged during the turn and for a distance of not more than 15 meters after the start and each turn. By that point the head must have broken the surface.

Competitions

There are eight competitions swam in freestyle swimming, both over either a long course (50m pool) or a short course (25m pool). Other distances are also swum on occasions.

- 50m Freestyle

- 100m Freestyle
- 200m Freestyle
- 400m Freestyle (500 yards for short course yards)
- 800m Freestyle (1000 yards for short course yards)
- 1500m Freestyle (1650 yards for short course yards)
- 4 x 100m Freestyle Relay
- 4 x 200m Freestyle Relay

Young swimmers (typically 8 years old and younger) may swim a 25 yard or 25 meter freestyle event. These shorter events are usually for swimmers who are slower than similarly aged swimmers or may have difficulty swimming longer distances.

Freestyle is also part of the medley over the following distances:

- 100m Individual Medley (short 25m pool only)
- 200m Individual Medley
- 400m Individual Medley
- 4 x 100m Medley Relay

In the long distance races the FINA and the Olympics only have the 800m distance for women and the 1500m distance for men. However, FINA *does* keep records in the 1500 meter distance race for women and the 800 meter distance for men.

GENERAL RULES OF SWIMMING STROKES

The Start

1. The start in freestyle, Breaststroke and Butterfly races shall be with a dive. On the long whistle from the Referee the competitors shall step onto back surface of the starting platform and remain there. On the starter's command "take your marks", they shall immediately take up a starting position at the front of the starting platforms. When all competitors are stationary, the starter shall give the starting signal(shot, horn, whistle or command).

2. The start back stroke and medley relay races shall be from the water, at the referee's long whistle the swimmers shall immediately enter the water and undue delay to the starting position. When all the swimmers have assumed their starting position, the starter shall give the command "take your marks" when all competitors are stationary, the starter shall give the starting signal.

3. In all ASAN events the command "take your marks" shall bein English and the start shall be by multiple loudspeakers shall be sufficiently loud that repetition of the signal will give adequate recall signal for a false start.

4. The starter shall call back the competitors at the first or the second false start and remind them if not starting before the starting signal. After the second false start any swimmer starting before the starting signal has been given shall be disqualified. If the disqualification is declared before the starting signal, the signal shall not begiven, but the remaining competitors shall be called back, be reminded by the starter of the penalties, and the start again.

5. The signal for a false start shall be the same as the starting signal but repeated along with dropping of the false starting rope. Alternatively, if the Referee decides that the start is false he shall blow his whistle, which shall be followed by the starter's signal and dropping of the false start rope.

6. If an error by an official follows a fault by a swimmer, the fault by the swimmer is expunged/overlooked.

Freestyle Swimming

Freestyle means that an event so designated the competitor may swim any style, except that in individual medley or medley relay events, freestyle swimming, turning and fishing, the swimmer can touch the wall with any part of his body. A hand touch is not obligatory

Backstroke

1. The competitors shall line up in the water facing the starting end, with the hands placed on the starting grips. The feel, including the toes, shall be under the surface of the water standing in or on the gutter or bending the toes over the lip of the gutter is prohibited; the swimmer is not allowed to make any movement with any part of his body before the starting signal has been given.

2. At the signal for starting and when turning they shall push off and swim upon their backs throughout the race. The hands must not be released before the starting signal has been given.

3. Any competitor who leaves the normal position on the back before the head, shoulder, foremost hand or arm as made contact with the end of the course for the purpose of turning or finishing shall be disqualified. It is permissible to turn the shoulders over beyond the vertical after contact is made with the end or the course, for purpose of executing the turn, but the swimmer must have returned past the vertical to a position on his back before the feet have left the wall. The normal position of the back in the backstroke include a roll movement of the body up to, but not including 90 degrees from horizontal at any point in the race. The position of the heads is not relevant.

Breaststroke

1. From the beginning of the first arm stroke after the start and after each turn, the body shall be kept on the breast and both shoulders shall be in line with the normal water surface.

2. At all times all movements of the arms shall be simultaneous and in the same horizontal plane without alternating movements.

3. Hands shall be pushed forward together from the breast, and shall be brought back on or under the surface of the water. Except at the start and at the turns, the hands shall not be brought back beyond the hip line.

4. At all times all movements of the legs shall be simultaneous and in the same horizontal plane without alternating movements.

5. In the leg kick, the feet must be turned outwards in the backward movement. Movements in the form of “flutter kick” or a “dolphin kick” are not permitted. Breaking the surface of the water with the feet is allowed unless followed by a downward movement in the form of a “dolphin kick”.

6. At each turn and upon the finish of the race, the touch shall be made with both hands simultaneously, either at, above, or below the water level. The shoulders shall remain in the horizontal plane.

7. During each complete cycle of one arm stroke and one leg kick, some part of the head of the swimmer shall break the surface of the water, except that after the start and after each turn the swimmer may take one arm stroke completely back to the legs and one leg kick while wholly submerged before returning to the surface.

Butterfly

1. Both arms must be brought forward together over the water and brought backward simultaneously.

2. The body must be kept on breast and both shoulders in line with the surface of the water from the beginning of the first arm stroke, after the start and on the turn.

3. All movements of the feet must be executed in simultaneous manner. Simultaneous up and down movement of the legs and feet in the vertical plane are permitted. The legs or feet need not be at the same level, but no alternating movements are permitted.

4. At each turn and upon the finish of the race, the touch shall be made with both hands simultaneously, wither at, above or below the water level. The shoulders shall remain in the horizontal position.

5. At the start and at turns, a swimmer is permitted one or more leg kicks and one arm pull under the water, which must bring him to the surface.

Medley Swimming

1. In individual medley events, the swimmer covers the four swimming styles in the following order: Butterfly, Breaststroke and Freestyle.

2. In medley relay events, swimmers will cover the four swimming styles in the following order; Backstroke, Breaststroke, Butterfly and Freestyle (BBBF).

The Race

A Competitor swimming over the course alone shall cover the whole distance to qualify

Management of Competitions

1. ASAN shall have jurisdiction over all matters not assigned by the Rules to the Referee, Judges or other officials and shall have power to postpone events and give directions consistent with rules adopted for conducting any event.

2. At all competitions of ASAN there shall be the following minimum number of officials for the control of the competitions:

Referee (1),
Judges of stroke (4),
Starters (2),
Chief Inspectors of Turns (2, 1 at each end of the pool),
Inspectors of Turns (1 at each end of each lane),
Chief Recorder (1) and
Recorder (1),
Clerk of Course (2),
False Start Rope personnel (2),
Announcer (1).

For all other competitions, ASAN shall appoint the same of fewer numbers of officials. Where Automatic Officiating Equipment is not available, such equipment must be replaced by a Chief Timekeeper, 3 Timekeepers per lane, Chief Finish Judge, and at least one Finish Judge per lane.

OFFICIALS

Referee

1. The Referee shall have full control and authority over all officials, approve their assignments, and instruct them regarding all special features or regulations related to the competitions. He shall enforce all rules and decisions of the ASAN and shall decide all questions relating to the actual conduct of the meet, the event or the competition, the final settlement of which is not otherwise covered by the rules.

2. The Referee may intervene in the competition at any stage to ensure that the ASAN regulations are observed, and shall adjudicate all protests related to the competition in progress.

3. Where the Finish Judge's decision and the times recorded do not agree, the Referee shall determine placing. Automatic Officiating Equipment. If available and operating, shall be consulted.

4. When video tape is available, it must be consulted by the Referee in any case of doubt or protest (turns, finish and relay take-offs).

5. The Referee shall ensure that all necessary officials are in their respective posts for the conduct of the competition. He may appoint substitutes for any who are absent, incapable of acting or found to be inefficient. He may appoint additional officials if considered necessary.

6. At the commencement of each event, the Referee shall signal to the competitors by a short series of whistles inviting them to remove all clothing except for swimmer, followed by a long whistle indicating that they should take their position on the back of the starting platform (or for backstroke swimming and medley relays to immediately enter the water). When the competitors and officials are prepared for the start, the Referee shall gesture to the Starter with a stretched out hand, indicating that the competitors are under the Starter's control.

7. The Referee shall disqualify any competitor for any violation of the rules that he personally observes or which is reported to him by other authorized officials.

Starter

1. The Starter shall have full control of the competitors from the time the Referee turns the competitors over to him until the race has commenced.

2. The Starter shall report a competitor to the Referee for delaying the start, for willfully disobeying an order or for any other misconduct taking place at the start, but only the Referee may disqualify a competitor for such delay, willful disobedience or misconduct. Such disqualification shall not be counted as a false start.

3. The Starter shall have power to decide whether the start is fair, subject only to the decision of the Referee. If the Starter believes the start is not fair, he shall recall the competitors after the signal of the start has been given, except after two falses starts, when the Starter shall not recall the competitors after the signal of start has bee n given.

4. When starting an event, the Starter shall stand on the side of the pool within approximately five meters of the starting edge of the pool where the Timekeepers can see the starting signal and competitors can ear the signal

Clerk of the Course

The Clerk of Course shall assemble competitors prior to each event.

Chief inspector of Turns

1. The Chief Inspector of Turns shall ensure that inspectors of Turns fulfill their functions during the competitions/

2. The Chief Inspector of Turns shall receive the reports from the inspector of Turns if any infringement occurs and shall present them to the Referee immediately.

Inspectors of Turns

1. Each Inspector of Turns shall ensure that competitors comply with the relevant rules for tuning, commencing form the beginning of the last arm stroke before touching and ending with the completion of the first arm stroke after turning. Inspectors of turns at the finish end of the pool shall ensure that competitors finish their race in accordance with the relevant rules.

2. In individual events of 800 and 1500 meters, each Inspector of Turns at the turning end of the pool shall, record the number of laps completed by the competitor in his lane and keep the competitor informed of the remaining number of laps to be completed by displaying “lap cards”.

3. Each inspector at the starting end shall give a warning signal when the swimmer in his lane has two length plus five (5) meters to swim to finish in individual events of 800 and 1500 meters. The warning signal may be by whistle or bell.

4. Each inspector at the starting end shall determine, in relay events, whether the starting competitor is in contact with the starting platform when the preceding competitor touches the starting wall. When Automatic Equipment that can judge relay take-offs is available, it shall be used.

5. Inspectors of Turns shall report any violation on signed cards detailing the event, lane number and competitor's name and the infringement, and deliver it to the Chief Inspector of Turns who shall immediately convey the report to the Referee.

Judges of Stroke

1. Judges of Stroke shall be located on each side of the pool.

2. Judges of Stroke shall ensure that the rules related to the style of swimming designated for the event are being observed, and shall observe the turns to assist the Inspector of Turns.

3. Judges of Stroke shall report any violation to the Referee on signed cards detailing the event, lane number, the competitor's name and the infringement.

Chief Timekeeper

1. The Chief Timekeeper shall assign the seating positions for all Timekeepers of the lanes for which they are responsible.

2. There shall be three (3) Timekeepers for each lane. There shall be two (2) additional Timekeepers designated, either of whom shall be directed to replace Time-keeper whose watch did not start or stopped during an event or who for any other reason is not able to record the time.

3. The Chief Timekeeper shall collect from each Time keeper a card showing the time recorded and, if necessary, inspect their watches.

4. The Chief Timekeeper shall record or examine the official time on the card for each lane.

Timekeepers

1. Each Timekeeper shall take the time of the competitors in the lane assigned to him. The watches shall be certified to the satisfaction of the meet by ASAN. Each Timekeeper shall start his watch at the starting signal, and shall stop it when the competitor in his lane has completed the race. Timekeepers may be instructed by the Chief timekeeper to record times at intermediate distances in races longer than 100 meters.

2. Promptly after the race, the Timekeepers in each lane shall record the times of their watches on the card, give it to the Chief Timekeeper, and if requested present their watches for inspection. They shall not clear their watches until they receive the “clear watches” signal from the Chief Timekeeper or the Referee.

3. Unless a video backup system is used, it may be necessary to use the full complement of Timekeepers even when Automatic Officiating Equipment is used.

Chief Finish Judge

1. The Chief Finish Judge shall assign each Finish Judge his position and the placing to be determined.

2. After the race, the Chief Finish Judge shall collect signed result sheets form each. Finish Judge an establish the result and placing which will be sent directly to the Referee.

3. When Automatic Officiating Equipment is used to Judge the finish of a race, the Chief Finish Judge must report the order of finish recorded by the Equipment after each race.

Finish Judges

1. Finish Judges shall be position in elevated stands in hue with the finish where they have at all times a clear view of the course and finish line, unless they operate and Automatic Officiating device in their respective assigned lanes by depressing the "pushbutton" at the completion of the race.

2. After each event, the Finish Judges shall decide and report the placing of the competitors according to the assignments given to them. Finish Judges other than push-button operators shall not act as Time-keepers in the same event.

Desk Control

1. The Recorder is responsible for checking results from computer printouts or from results of times and placing in each event received from the Referee. The Chief Recorder shall witness the Referee's signing the results.

2. The Recorders shall control withdrawal after heats or finals, enter results on official forms, list all new records established, and maintain scores where appropriate. Officials shall make their decision autonomously and independently of each other unless otherwise provided in the Swimming Rules.

Seeding of Heats and Final

The starting stations for all events in ASAN competitions shall be by seeding as follows:

Heats

The best competitive times for all entrants for the preceding twelve months shall be submitted on entry forms and listed in order of time by ASAN. Swimmers who do not

submit times shall be considered the slowest and shall be placed at the end of the list. Placement of swimmers with identical names or of more than one swimmer without times shall be determined by draw. Swimmers shall be placed in trial heats according to submitted times in the following manner.

1. If one heat, it may be seeded as a final and swum only during the final session, at the Referee's discretion.

2. If two heats, the fastest swimmers shall be seeded in the second heat, next fastest in the first heat, next fastest in the second heat, next in the first heat, etc.

3. If three heats, the fastest swimmer shall be seeded in the third heat, the next fastest is in the second heat and the next in the first heat. The fourth fastest swimmer shall be placed in the third heat, the fifth in the second heat, and the sixth fastest in the first heat, the seventh fastest in the third heat, etc.

4. If four or more heats, the last three heats of the event shall be seeded in accordance with the directives in number 3 above. The heat preceding the last three heats shall consist of next fastest swimmers. The heat preceding the last four heats shall consist of the next fastest swimmer, etc. Lanes shall be assigned in descending order of submitted times within each heats.

5. Except for fifty meter events, assignment of lanes shall be (number 1 lane being on the right side of the pool when facing the course form the starting end) by placing the fastest swimmer of each team in the center lane in the pool with an odd number lanes, or in lane 3 or 4 respectively in pools having 6 or 8 lanes, the swimmer having the next fastest time is to place on his left, then alternating the others to right and left in accordance with the submitted times. Swimmers with identical shall be assigned their lane positions by draw within the aforesaid pattern.

6. When a 50 meter events are contested, the races may be swum, at the discretion of ASAN either from the regular starting end to the turning end or from the turning end to

the starting end, depending upon such factors as existence of adequate Automatic Equipment, Starters position, safety, etc. ASAN should advice competitors of their determination well before the start of the competition.

Regardless of which way the race is swum, the swimmers shall be seeded in the same lanes in which they would be seeded if they were both starting and finishing at the starting end.

Final

1. Where no preliminary heats are necessary, lanes shall be assigned by balloting to place the swimmers.
2. In event that swimmers form the same or different heats have equal times registered to 1/100 second for either the eight places or sixteenth place, there shall be a swim-off to determine which swimmer shall advance to the appropriate finals. Such swim-off shall take place not less than one hour after all involved swimmers have completed their heat.
3. Where one or more competitors scratch from a final event (A or B final), substitutes will be called in order of classifications in heats. The event or events must be re-seeded supplementary sheets must be issued detailing the change or substitutions,
4. In other competitions, the draw system may be used for assigning lane positions

Aquatic Activities

Apart from the competitive strokes and recreational swimming, there are other aquatic activities that people take part in. All of these activities have as their background certain fundamental water skills. Some aquatic activities include:

1. Synchronized Water Games: These are games that require the performers to certain movements to a particular music or beat while in water. It has become a

competitive sport, with countries sending in teams to represent them. It is not presently popular in Nigeria.

2. Water Polo: This is a game that is like handball but is played in water. The purpose is to try to throw the ball into the opponent's goal. The swimming throwing and catching skills are common to the game.

3. Diving. During competitive swimming strokes, the swimmer starts with a dive into the pool. But the diving being referred to here is one in which the swimmer dives from a board placed very high. He is allowed to do as many tumbling as possible fore landing into the water.

4. Scuba Diving: This is a type of diving, where underwater breathing apparatus containing oxygen is used it is very common in films to seep people using this type of apparatus to go under the sea or ocean.

General Rules

(1) *Amateur Definition.*

(i) No distinction between Amateur and professional shall be made for competition who have registered in masters in swimming, diving, water polo and synchronized swimming. Subject, as hereafter provided, an individual shall cease to be eligible to compete as an amateur or too give exhibitions with an amateur by committing any of the following offences in swimming.

(ii) By competing, teaching, training, coaching or giving exhibitions for payment received, directly or indirectly in money or in kind or for material advantage.

(iii) By taking part in any competition or exhibition with anyone who to his knowledge is not an amateur swimmer, except in team sports,

approved lifesaving activities or when only in the armed services or master competitions.

(iv) By accepting reimbursement for boarding and travelling expenses in excess of the actual justifiable amount incurred by the swimmer.

(v) By betting or wagering on any competition.

(vi) By converting into cash any award or prize won in competition

(vii) By commercializing his athletic fame through:

(a) Permitting the use of his name to promote the sale of goods.

(b) Accepting direct or indirect compensation for wearing or using goods provided to him by a manufacturer or derived from any other source, which displays advertising in excess of that normally used commercially, and must be in accordance with GR8 Advertising.

(c) Engaging for pay or financial benefit in any occupation or business transaction wherein his usefulness or value arises chiefly from the publicity given to the reputation of fame he has secured from his performance in sport rather than from his ability to perform the usual and natural acts and duties incidental to such occupation or transaction.

(d) Permitting his name, his photograph or his performance on swimming to be used for advertising purpose under this rule an athlete did not lose his eligibility to compete as an amateur if:

i. The monetary advantage increase to the benefit of the FINA, National Federation to which he/she belongs or an organization approved by the federation to receive them.

ii. The contract is approved by the National Federation of FINA and the advertising clearly so indicates.

iii. There is no violation of rule 8(G.R).

(e) Appearing on radio or television for pay in programmes connected with swimming or to his ability and performance as a swimmer. However radio or television contracts involving monetary advantages, which have been sanctioned by his federation and which are under the control of and to the benefit of either the international or national federation, are permitted.

(f) Accepting remuneration for:

i. Attaching his name to press contributions which he has not himself written, or

ii. Participating in the production of a film, unless he is a recognized film actor.

vi. The amateur status of a swimmer shall not be endangered:

(a) If he/she is teaching elementary swimming and is paid by an educational authority, government or community organization or is engaged in approved life savings activities, coaching of swimmers is not permitted.

(b) By accepting monetary assistance during approved period of training, including participations in competitions approved or sanctioned by his federation / FINA Limited liner to any international swimming meets.

(c) Such assistance may include payment for food, lodging, transportation, her/his sports equipment, coaching medical care and insurance and a sum per day for the number of days related to an event as an indemnity against petty expenditure.

(d) By accepting compensation, by excess of the authorized sum which the competitor would have earned in the same period of the time or her national federation to cover financial loss resulting from his or her absence from work, related to preparation for and participation in he Olympic Games, World Championship, Regional games, continental championship and other major international competitions approved by his or her national

federation. Payment, however shall not be in excess of the sum which the competitor would have earned in the same period of time.

(e) By accepting scholarships, if granted on the basis of academic and technical standards depending on the fulfillment of scholastic obligation but not on athletic prowess.

(f) By accepting prizes other than medals and inscribed trophies. The commercial value of whose shall not be in excess of 300 Swiss Frances or its equivalent.

(2) Jurisdiction

Jurisdiction over swimmers. The amateur definition shall be binding on the members of every country whether at home or abroad.

All affiliated countries shall mutually recognize:

(a) That each is the only authority governing swimming diving, water-polo and synchronized swimming in their respective countries.

(b) That they are the only bodies competent to regulate international regulations therein.

(c) That each alone can select competitors from its nation to represent it at Olympic Games or any other international meet.

(d) That no member is permitted to delegate its authority or any of its powers.

(e) That the management of all national or international competitions in the country must be under its control.

Each country shall emphasizes in its national rules that FINA is the only recognized body in the world which governs swimming, diving, water polo and synchronized swimming internationally. Sentences of suspension or disqualification by any country shall be binding on any country.

(3) Requalification. A swimmer who has broken the amateur law knowingly and thereby becomes a professional may not be prequalified as an amateur, provided that:

(a) When special reasons or extenuating circumstances exist, a swimmer can be prequalified as an amateur, though not until two years have elapsed since breaking of the amateur definition.

(b) If such reinstated swimmer wishes to take part in international competition, the full facts surrounding the case shall be presented to the Bureau for such action as the Bureau may deem necessary.

(4) Tours in foreign countries.

(a) A swimmer competing at a recognized meet in a foreign country shall be a member of an affiliated national governing bound by the rules of the association under hose jurisdiction the meet takes place.

(b) In every case of a dispute arising out of swimming, diving, water polo and Synchronized swimming, the rules of the association under whose jurisdiction the met is held shall have force, except during the Olympic Games and at world championship at which period the Bureau shall have the right of appeal only to his own association.

(c) A swimmer or a team of swimmers touring a foreign country shall obtain from his or their own country written permissions. If granted, this certificate shall state that he or they are amateurs and under the jurisdiction of their own country. Such certificate shall be produced before the competition begins and at any time when requested by the officials of the country in which they are competing.

(d) In the case of an individual swimmer on foreign tour, not paying his own expenses, the inviting organization shall not be required to meet the travelling and other expenses of more than one qualified person (trainer, coach, manager) accompanying such swimmer, except in the case of a female swimmer, a second person may accompany her as a chaperon at the expense of the inviting organization.

(e) The maximum duration of tours abroad during any period of 365 days, but, in calculating the latter period there shall be excluded:

(1) The period of the journey both ways, and

(2) Any time required for participating in

(a) The Olympic Games, World Championships,

(b) Championships of Continents or Regional Games and

(c) Inter- Nations contests.

Exception from GR 4 may be granted in exceptional circumstances (e.g. a swimmer spending normal holidays abroad) on authorization by the national federation of the country to which the swimmer concerned belongs.

(f) any swimmer or team of swimmers on tour or taking part in more than one match or meet shall, within 14 days after his or their return, submit to his or their country a complete financial statement to the tour. That country in turn shall forward a copy of the statement to the Bureau in all countries in which the amateur definition appears to be infringed in connection with a tour of a swimmer or swimmers, the bureau being entitled to claim all accounts, balance sheets and particulars from any affiliated country involved and also to recommended suspension of any guilty swimmer to his competent governing

body, the latter being equally liable to suspension by the bureau in case of refusal to comply with the recommendation of the bureau.

5. *International permits.*(i) in every case where a permit to hold a meet is granted, each country (organization) agrees to see that the rules governing amateurism are strictly enforced.

(ii) In international competitions, including Regional games, continental championships, Group Games and all other major international competitions, the relevant governing body of swimming may determine the contents and the format of competitions.

(iii) The competitors, individually or as a group, including the team officials or national federation representatives, participating in any international meet or event who:

(a) Refuse to carry out their obligations as true sportsmen.

(b) Withdrawal from an event for political reasons.

(c) Object to the appointed officials on political grounds.

(d) In any other way display non-cooperation with the authorities of the organizing committee of the competition, engendered by political views shall be disciplined by FINA, with suspension of all their rights and privileges for a period of time as determined by the FINA Bureau.

(6) Advertising. At the world championships and approved international competitions under the control of FINA, members of the representing teams and officials, while in the official competition venues shall not be permitted to wear, exhibit or carry any visible item in the form of advertising other than the trade mark on technical equipment or clothing , not exceeding 16 sq cm in area. The trade mark be repeated provided a name is used once only. Design or trademarks of national federations or organizing committees for

Olympic, world, continental and regional championship are excluded from this rule. the management committee shall have the authority to disqualify any person violating this rule.

(7) **Costumes.**

Competitors in all international events and in world record performance shall wear respectively the following:

Males: swimming trunks, except that water polo players shall wear trunks with an inner liner or an additional support. The width of the band extending from to the rear in the area of the hips and waist shall be not less than 7.5cm in width.

Females: Costumes of one piece devoid of open work except at the back.

(a) The front extension for the legs shall not be less than 5.0cm from the crotch and may be cut in a curved line extending upward and backward around the circumference of the thigh, the highest point of this curved line shall not be less than 10.2 cms bbelow the crest of the hip bone.

(b) The costume shall be cut not more than 11.5 cms from the sternal notch in front and not more than 2 inches (5.0 cms) below the crease of the axillary fold of the arm in front.

(c) If any type of fastener is used it may be placed on the shoulder strap or extending between the two shoulder straps at a functional (suitable) position in the region of the shoulder blades(scapulae). The texture of all costumes shall be non-transparent. The referee of a competition has the authority to debar from competing any competitor whose costume does not comply with this rule.

Note. The measurement as given above are approximate. The object is to debar immodest costumes.

(8) **Coaching.**

Coaching shall not be permitted for the duration of any swimming, synchronized swimming or diving competition while the context is in progressed, and in the case of the game of water polo while the actual play is in progressed.

SUPPLEMENT TO GENERAL RULES

M*edical control and medical and sanitary rules.*

In accordance with the instructions of the I.O.C . Commission, adopted in 1972, the FINA International sport medicine committee has formulated the following regulation which are applicable to the four disciplines, swimming, diving, water polo and synchronized swimming.

i. *Medical Control.* These regulations are applicable at all major international competitions which are under the control of FINA Olympic Games, world championship and area championships.

ii. *Medical control.* The medical control programme at competitions will be under the supervise of a commission consisting of 5 physicians chaired by a member of the FINA Sport Medicine Committee .

The members of this commission shall be selected by the FINA Sport medicine committee, and approved by the FINA Bureau. The chairman of the FINA sport medicine committee will be responsible for making the necessary arrangements with the organizing committee of the games, for the proper execution of the medical control procedures.

iii. *Medical control procedures:*

(a) Any athlete may be selected by the commission to undergo a medical control test.

(b) Routine selection of the competitors who are to be tested, shall be made by the medical commission by a draw, before the start of each race or competition, or as otherwise indicated, according to the following method.

(c) In the Olympic Games the number of athletes tested, shall be , in accordance with the recommendation of the IOC or those approved by the FINA Bureau or its Representatives. In competitions other than the Olympic Games the number of athletes tested shall be in accordance with the recommendation of the FINA Bureau or its representative.

iv. *Medical control.* All competitors who have been selected to undergo the medical control test by draw shall be handed over a notification form by a member of the medical commission after the end of the respective competition and shall confirm the receipt by their signature.

v. Medical control

Immediately after having received the notification the competitor accompanied by an attendant shall proceed to the medical control station and report to the responsible member of the commission. With regard to swimming, this has to be done after the end of the respective section of the competition of the latest, if the competitor has to compete in another contest within section (as for instance competitors in relay

events). The selected competitor has to show his identity card, and a form shall be completed by him for his urine test.

vi. Medical control. When a test is known to be positive , the director of medical control deciphers the code number and transmits this information to the chairman of the medical commission.

The chairman of the commission will communicate in writing the result of the test to the competitor, the head of his delegation and to the FINA bureau.

vii. Medical Control: Any athlete whose test is found positive will be immediately disqualified from further competition and position he obtained in the competition will be annulled.

If the competitor is a member of a team (relay, water polo or synchronized swimming) the competition in question shall be forfeited for that team, without being granted the privilege of repeating the contest, and only the competitor whose test was positive, will be disqualified from all further competitions.

10) **Medical and Sanitary Rules for Pool Facilities.**

(i) In order to safeguard and protect the health and to direct the proper physical development of persons, particularly the young, who use swimming facilities for the purpose of recreation, training, and competing, the medical committee draws attention to many deficiencies existing in swimming pools as a result of non-observance of medical and sanitary principles and requirements. Many diseases of the skin and respiratory and intestinal systems can be avoided by adopting proper regulations.

ii) The FINA Sport Medical Committee, therefore, recommends:

A) All swimming organizations include in their administrative staff medical personnel, an appropriate number of physicians, nurses and laboratory assistants.

(B) The medical staff should:

(i) Supervise the day to day observance of sanitary hygienic control of the pool and all related areas such as locker rooms, showers, dressing rooms and sanitary facilities.

(ii) Ensure that the water is properly circulated, filtered, chlorinated or brominated, that the temperature is properly controlled and regulated (minimum 24 degree centigrade raised to 28 degree centigrade for young children) with the air temperature being 1 to 2 degree centigrade higher than that of the water.

(iii) Establish a programme of medical and physical examination of swimmers, particularly those under training for competition. Such medical and physical examinations to be conducted three times a year and that proper records be kept of each individual.

(iv) Schedule lectures for coaches, trainers, swimmers and parents.

(v) Keep a register of all injuries and diseases.

(vi) Set up an emergency medical room including the essential first aid equipment and materials.

(a) The administration of the swimming pools shall not allow competitors, coaches, officials and others to enter the areas adjoining the baths of the pool without special footwear.

b) No smoking is allowed in the territory of the indoor pools including the stands for spectators.

Rules for championships

Management Committee.

(i) The actual management shall be under the control of organizing unit.

ii) The management committee shall be the Bureau of the FINA. The committee shall have power, if they think it advisable, to add to their number by the addition of one representative of the county holding the Olympic Games or the World championships.

iii) The management committee shall be responsible for the entire management of the contest, including the arrangement of the program of events, appointment of officials, and adjudication of protests.

iv) Should any member of the management committee be absent from the championships, the remaining members shall have power to appoint substitutes, if necessary. Nine members shall constitute a quorum.

v) When the management committee is acting as jury of Appeal, each member, including the President, shall have one vote. In case of a tie vote, the president shall also cast the deciding vote. A jury member may not vote in a case in which the interest of his own unit is involved, but may speak if so invited. A jury member having acted as an official is not allowed to vote in a case if there is a protest against his decision.

(vi) In case of urgency, nine or more members of the jury can vote on a matter even if it is impossible to call all the members.

vii) The decisions of the Jury are final.

(12) ***Officials.***

The organizing unit will send to all members application forms for judges to act at the championships. These forms must be signed by the president or

secretary of the member and all candidates must have been fully certified by the respective technical committee.

(13) **Entries**.

For the championship, entries shall be made on official entry forms signed by the Horny. Secretary of the respective participating units. These entry forms duly filled shall be delivered to the organizing secretary on or before the date announced and receive the entry.

(14) **Swimming.**

(i) for each individual event, each member may enter a maximum of 2 competitors, regardless of standards.

(ii) for each relay event, each member may enter only one team. All swimmers entered can be used in relays.

(iii) The composition of a relay team may be changed between heats and finals of an event.

(iv) The names of swimmers actually swimming on a relay must be submitted at least one hour before the start of the session in which the event is to take place, in the order in which they are to swim. The names of swimmers in medley relay events must be listed for their respective strokes.

(v) Each unit may send any number of swimmers keeping in view the guidelines of entry.

(vi) The heats and finals ("A" and "B") shall be arranged in accordance with Rule 3, under the supervision of the technical swimming committee.

(vii) The heat list shall be published at least four days before the first day of competition.

(viii) In every event, including 800m freestyle for women and 1500m freestyle for men, competitors shall be seeded for the heats in accordance with the times

submitted on the official entry forms. Swimmers shall be advanced to "B" and "A" finals on the basis of their placing in the heats.

(15) **Diving.**

(i) For each diving event, each member may enter a maximum of 2 competitors, regardless of standards.

(ii) Each member may enter a maximum number of 4 men and 4 women divers (6 and 6 where 1m springboard is included).

(iii) At the Olympic Games and at the World Championships, in springboard and platform diving contests there shall be executed the dives prescribed by the FINA rules for diving and no other dives may be added.

(16) **Water Polo.**

(i) For water polo an entry of a maximum of thirteen players may be accepted. Any team member can be freely interchanged during each round of competition.

(ii) The organizing unit shall decide the terms and conditions for the entry in water polo game.

(iii) The draw for the tournament will be decided as per approved values in the presence of the participating units.

(17) competitors entered for diving, water polo and synchronized swimming cannot swim relay events and those entered for swimming, diving and synchronized swimming cannot be used as water polo reserves, with the proviso that one and the same swimmer could compete in water polo as well as other swimming events, if officially entered for such events.

(18) **Programming**

Program of events

(a) Swimming	men	women
Freestyle:	50m, 100m, 200m 400m, 1500m	50m, 100m, 200m, 400m, 800m
Backstroke:	100m, 200m	100m, 200m
Breaststroke:	100m, 200m	100m, 200m
Butterfly:	100m, 200m	100m, 200m
Individual Medley:	200m, 400m	200m, 400m

Relays		
Freestyle:	4x100m, 4x200m	4x100m, 4x200m
Medley:	4x100m	4x100m

(b) Diving		
Springboard	Men	Women
(1** and 3 metres)	Men	Women
Platform (10 metres)	Men	Women
(c) Water polo	Men	Women
(d) Synchronized swimming		
Solo		women
Duet		women
Team		women (**)

Note: ** only at world swimming championships, at present.

(19) Once fixed, the standard daily program of event may be altered only by the management committee, and then under exceptional circumstances. Notice of any alteration must be posted on the official bulletin board, at least twenty-four hours before the alteration is to come into operation.

i. The Nature of the Sports.

ii. Introducing Beginners to Swimming.

Beginners in Swimming needs to learn the following basic skills:

i. Breathing:

ii. Floating:

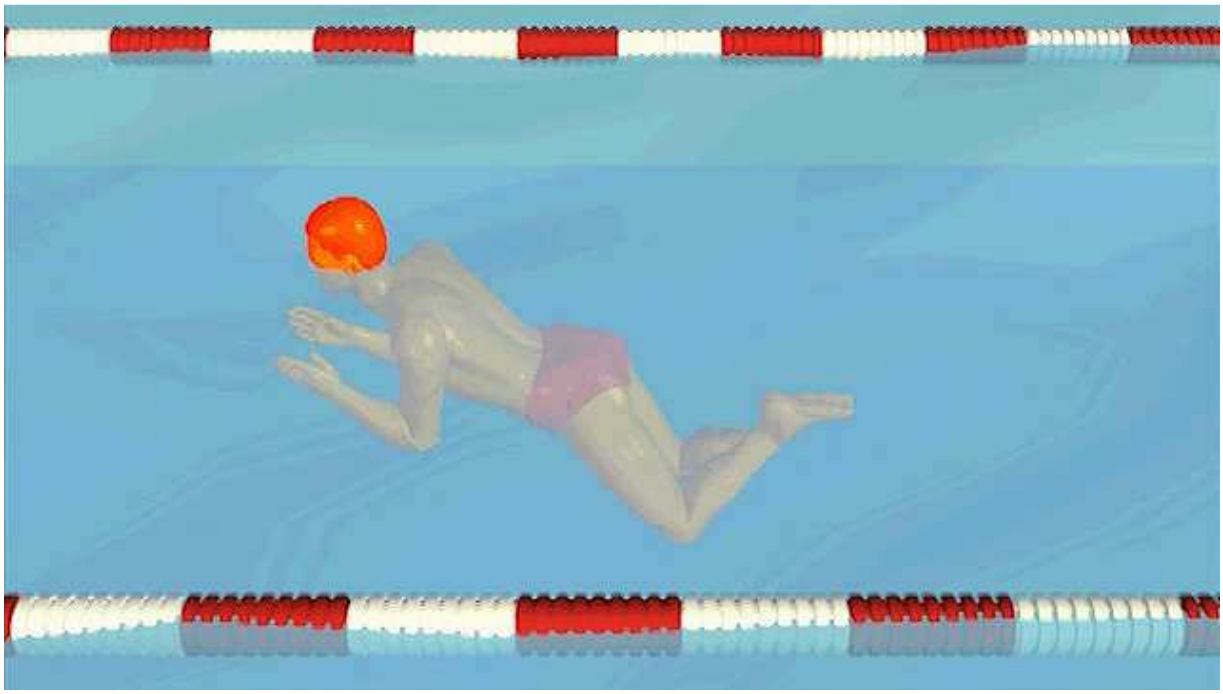
iii. Body coordination:

iv. Kicking:

v. Strokes:

The earliest strokes to be used were the sidestroke and the breaststroke. The sidestroke was originally used with both arms submerged. That practice was modified toward the end of the 19th century by bringing forward first one arm above the water, then the other, and then each in turn. The sidestroke was supplanted in competitive swimming by the crawl (*see below*) but is still used in lifesaving and recreational swimming. The body stays on its side and the arms propel

alternately. The leg motion used in sidestroke is called the scissors kick, in which the legs open slowly, under leg backward, upper leg forward, both knees slightly bent, and toes pointed. The scissors kicks action of the legs coming smartly together after opening creates the forward propulsion of the kick.

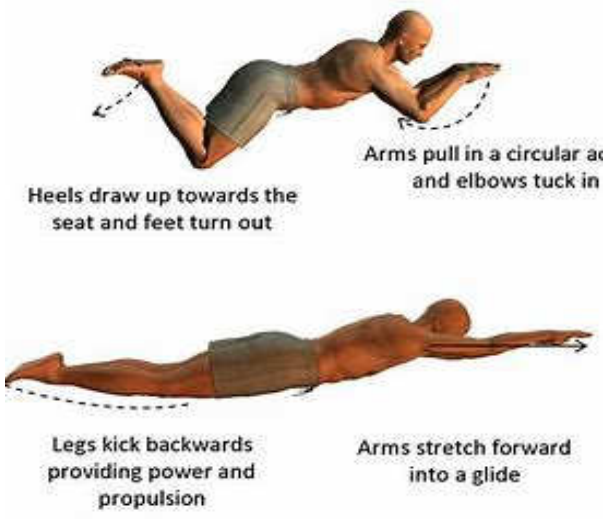


Competitive Breast Stroke in a Swimming Pool:

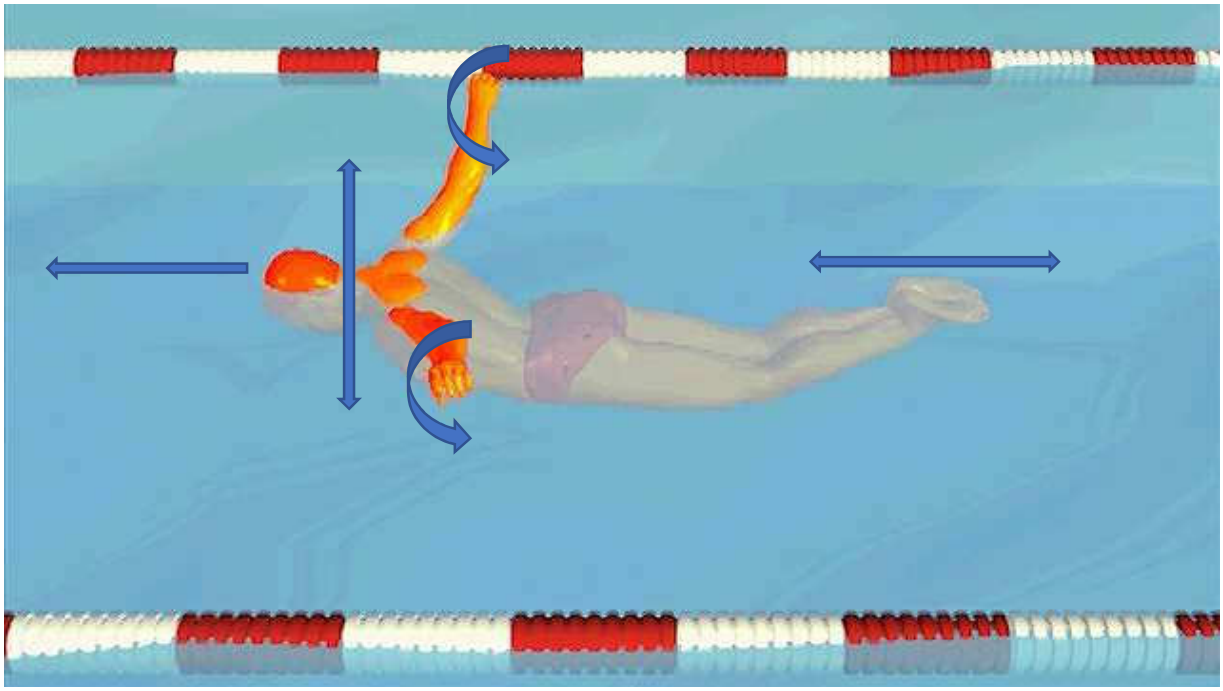
Breaststroke:

The stroke begins with the swimmer's feet together and drawn up toward the back. The feet kick out and down and then come back together in the middle. The arms stretch forward from the body while the head is kept underwater. The arms widen at the surface and then pull down and out to create a forward thrust through the water. The swimmer breathes

during the pull and exhales underwater.

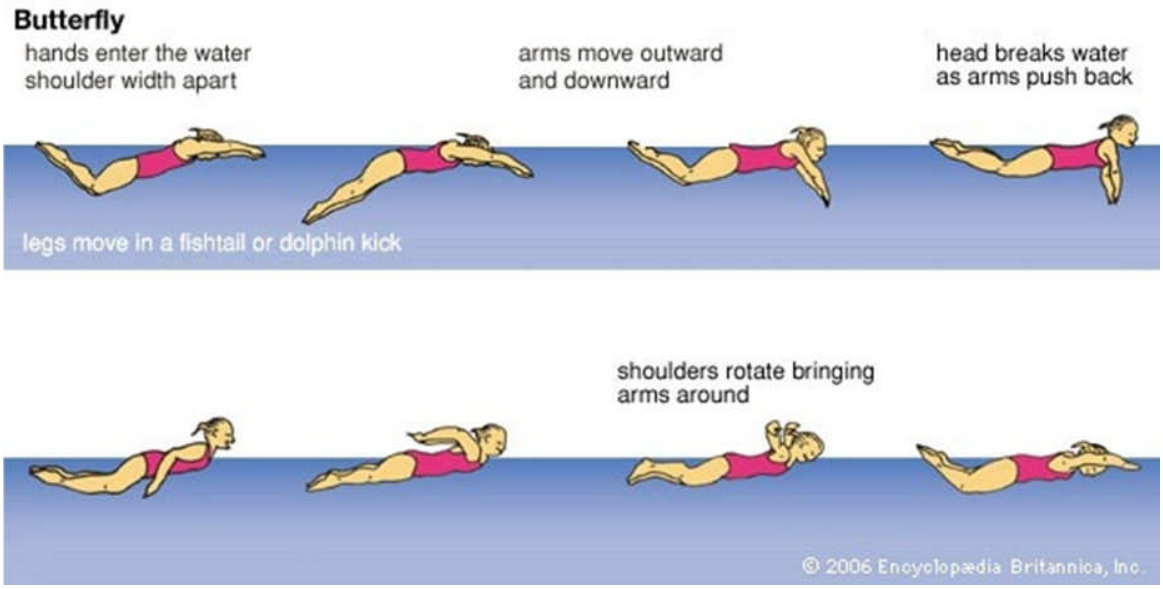


The breaststroke is believed to be the oldest of strokes and is much used in lifesaving and recreational swimming as well as in competitive swimming. The stroke is especially effective in rough water. As early as the end of the 17th century, the stroke was described as consisting of a wide pull of the arms in circular action (see illustration above) combined with a symmetrical action of the legs and simulating the movement of a swimming frog, hence the usual term “frog kick”. The stroke is performed lying face down in the water, the arms always remaining underwater. The early breaststroke featured a momentary glide at the completion of the frog kick. Later the competitive breaststroke eliminated the glide. In the old breaststroke, breath was taken in at the beginning of the arm stroke, but in the later style, breath was taken in near the end of the arm pull.



In the Butterfly Stroke, note the circular motion of the swimmer's outstretched arms.

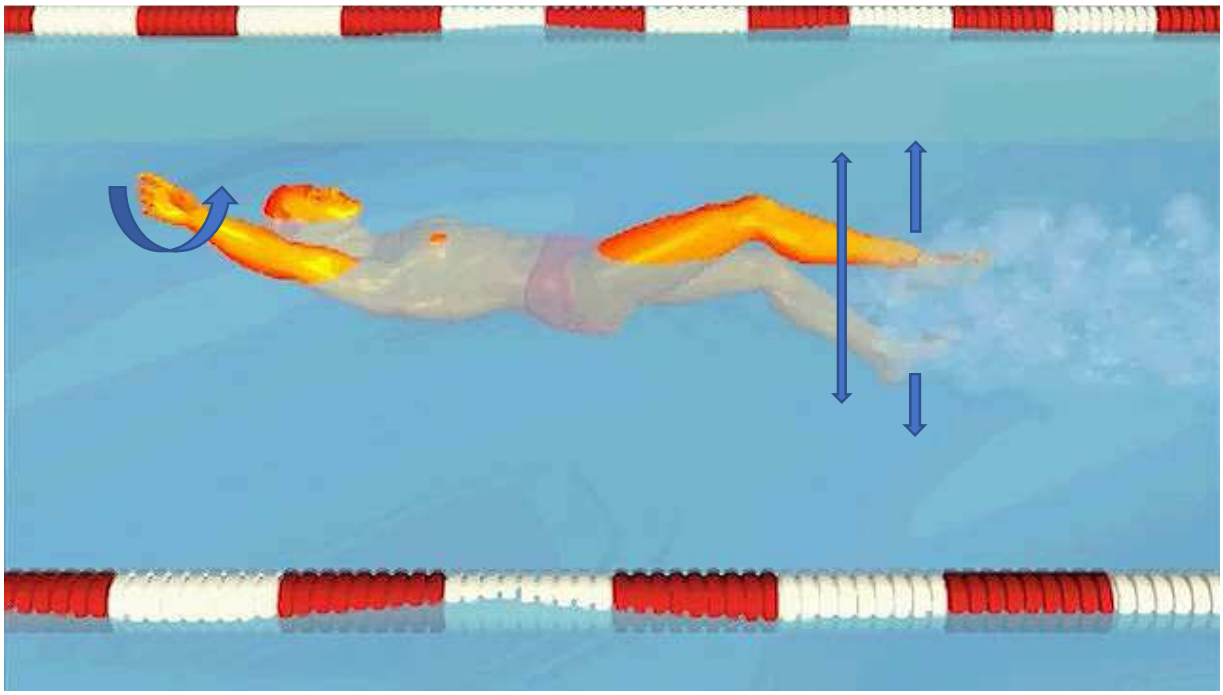
Butterfly Stroke:



The stroke begins with the swimmer's arms moving in a conical and circular fashion from back to front. The hands then move down the chest to the hips. The legs

are kept together and thrust down like a flipper in a double rhythm matching the exit and entry of the hands from the water. Breath is inhaled while the hands are underwater.

The butterfly, used only in competition, differs from the breaststroke in arm action. In the butterfly the arms are brought forward above the water. The stroke was brought to the attention of U.S. officials in 1933 during a race involving Henry Myers, who used the stroke. He insisted that his stroke conformed to the rules of breaststroke as then defined. After a period of controversy, the butterfly was recognized as a distinct competitive stroke in 1953. The frog kick originally used was abandoned for a fishtail (dolphin) kick, depending only on up-and-down flapping movements of the legs. Later swimmers used two dolphin kicks to one arm pull. Breathing is done in Sprint competition by raising the head every second or third stroke.



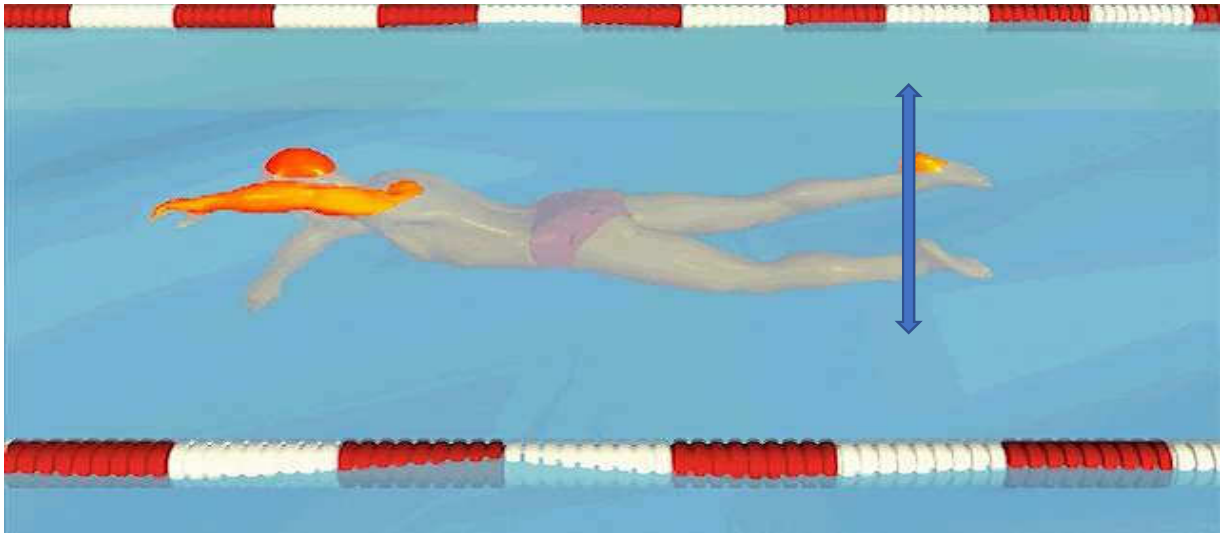
Watch how the swimmer maintains a strong flutter kick with a steady head while performing the backstroke

Backstroke:

The swimmer maintains a strong and steady flutter kick, with the head held steady. The stroke begins with the arm reaching above the head and then entering the water palm out. The arm drives down and outward through the water, then turns at the elbow to sweep in toward the hip. Strokes alternate between arms, and breathing should match the rhythm of the stroke.

The backstroke began to develop early in the 20th century. In that stroke, the swimmer's body position is supine, the body being held as flat and streamlined as possible. The arms reach alternately above the head and enter the water directly in line with the shoulders, palm outward with the little finger entering the water first. The arm is pulled back to the thigh. There is a slight body roll. The kick was originally the frog kick, but it subsequently involved up-and-down leg movements as in the crawl. The backstroke is a competition stroke, but it is also used in recreational swimming as a rest from other strokes, frequently with minimum arm motion and only enough kick to maintain forward propulsive movement.

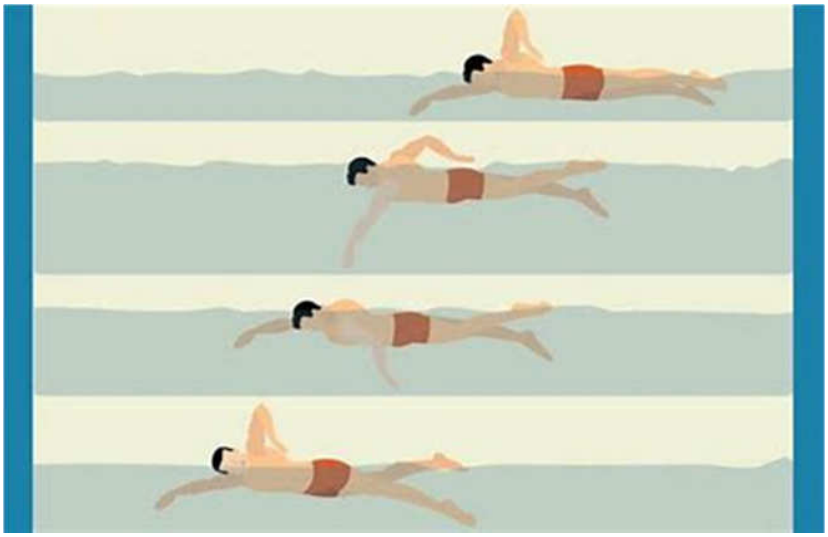
FREE STYLE OR THE CRAWL



The swimmer maintains a steady flutter kick during the freestyle stroke

Freestyle (Front Crawl):

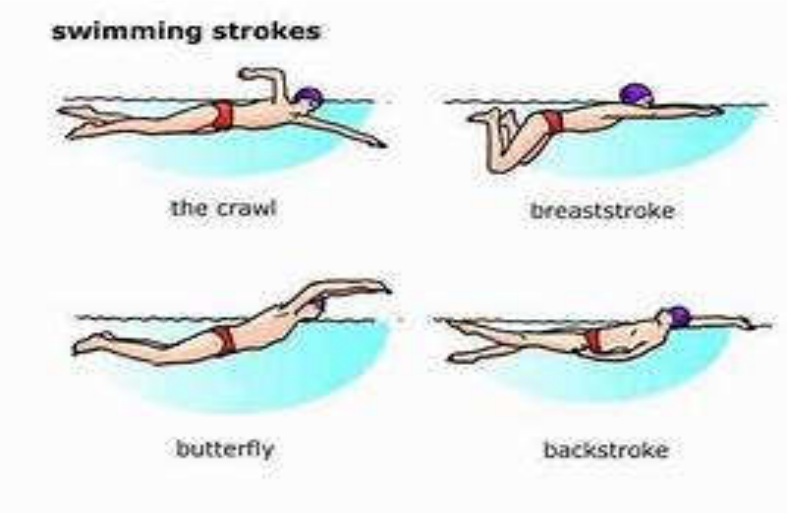
The swimmer maintains a strong and steady flutter kick. The stroke begins with the swimmer's arm extending forward at about shoulder width, then coming back across the body to the hip. During recovery the arm is brought back toward the head, keeping the elbow raised above the body. Strokes alternate between arms. The swimmer exhales underwater and takes a breath when needed.



The Front Crawl, the stroke used in competitive freestyle swimming, has become the fastest of all strokes. It is also the almost unanimous choice of stroke for covering any considerable distance. The stroke was in use in the Pacific at the end of the 19th century and was taken up by the Australian swimmer Henry Wickham about 1893. The brothers Syd and Charles Cavill of Australia popularized the stroke in Europe in 1902 and in the United States in 1903. The crawl was like the old sidestroke in its arm action, but it had a fluttering up-and-down leg action performed twice for each arm stroke. Early American imitators added an extra pair of leg actions, and later as many as six kicks were used. The kicks also varied in kind. In the crawl, the body lies prone, flat on the surface of the water, with the legs kept slightly under the water. The arms move alternately, timed so that one will start pulling just before the other has finished its pull, thus making propulsion continuous. Breathing is done by turning the head to either side during recovery of the arm from that side. Since 1896 the crawl has been used in more races than any other stroke.

V. BASIC SKILLS AND TECHNIQUES IN PERFORMANCE IN SWIMMING.

The five (5) basic swimming skills are Front crawl, Side stroke, Breast stroke, Back stroke and Butterfly stroke. It should be noted that each stroke uses different body position, breathing techniques and arm movements.



Essential Swimming skills include being able to enter the water and resurface, controlling breathing, floating, turning and moving to safety in the water and exiting. However, the water environment, the activity and even what the person was wearing can alter his ability to perform these skills

Instruction and Training

The earliest instruction programmes were in Great Britain in the 19th century, both for sport and for lifesaving. Those programmes were copied by the rest of Europe. In the United States swimming instruction for lifesaving purposes began under the auspices of the American Red Cross in 1916. Instructional work done by the various branches of the armed forces during both World Wars I and II was very effective in promoting swimming. Courses taught by community organizations and schools, extending ultimately to very young infants, became common.

The early practice of simply swimming as much as possible at every workout was replaced by interval training and repeat training by the late 1950s. Interval training consists of a series of swims of the same distance with controlled rest periods. In slow interval training, used primarily to develop endurance, the rest period is

always shorter than the time taken to swim the prescribed distance. Fast interval training, used primarily to develop speed, permits rest periods long enough to allow almost complete recovery of the heart and breathing rate.

Competitive Swimming Discover the hazardous effect of urinating in a swimming pool. The increased emphasis on international competition led to the growing availability of 50-metre (164-foot) pools. Other adjuncts that improved both training and performance included wave-killing gutters for pools, racing lane markers that also reduce turbulence, cameras for underwater study of strokes, large clocks visible to swimmers, and electrically operated touch and timing devices. Since 1972 all world records have been expressed in hundredths of a second. Advances in swimsuit technology reached a head at the 2008 Olympic \Games in Beijing where swimmers wearing high-tech bodysuits that increased buoyancy and decreased water resistance broke 25 world records. After another round of record-shattering times at the 2009 world championships, FINA banned such bodysuits, for fear that they augmented a competitor's true ability.

Internationally, competitive swimming came into prominence with its inclusion in the modern Olympics Games their inception in 1896. Olympic events were originally only for men, but women's events were added in 1912. Before the formation of FINA, the Games included some unusual events. In 1900, for instance, when the Games' swimming events were held on the Seine River in France, a 200-metre obstacle race involved climbing over a pole and a line of boats and swimming under them. Such oddities disappeared after FINA took charge. Under FINA regulations, for both Olympic and other world competition, race lengths came increasingly to be measured in meters, and in 1969 world records for yard-measured races were abolished. The kinds of strokes allowed were reduced to freestyle (crawl), backstroke, breaststroke, and butterfly. All four strokes were used in individual

medley races. Many nations have at one time or another dominated Olympic and world competition, including Hungary, Denmark, Australia, Germany, France, Great Britain, Canada, Japan, and the United States.

Maintenance of Swimming Pool:

Regardless of whether maintenance is of the fields, indoor halls or swimming pools, certain maintenance principles exist which can assist in establishing an effective maintenance operation. It should however, be realized that each sports have problems and needs unique attention to that sport. It is pertinent to note that the maintenance operation of no two sports will be exactly alike because of differences in the facilities design and structure and the location. Despite these differences, there are certain principles of fundamental truth that are basic to any effective maintenance operation. The following steps should be followed to maintain a Swimming Pool.

i. Maintenance objectives and standard

The general objectives of swimming pool should be concentrated at the regular maintenance of “the area and facilities” to create a very save environment.

ii Economy of Time

Maintenance tasks should be conducted promptly and quick as possible. It is also important to note that maintenance work does not interfere with programme and competition function.

iii Maintenance Plan

The supervising unit should endeavor to have detailed, comprehensive maintenance plan in form of a maintenance manual. It is very important to a maintenance team with cooperative and coordinated spirit. The maintenance plan should allow no substitute for quality for quality.

iv Economy of Personnel

The optimum number of workers required should be assigned to perform various maintenance functions. They must be trained and skilled to be able to perform the maintenance tasks effectively and efficiently.

v. Operating Expenses

If ways can be found to do the maintenance job more efficiently and economically, adequate fiscal resources and supports should be made available for new or more facilities. One essential policy and principle in maintenance should be "if you can't maintain it, don't build it".

vi. Economy of Equipment

Proper equipment to do the job is necessary and should be made available in the most economic manner possible. The use of right powered equipment with modern and mechanized operation plays a vital role.

vii Design and Construction

"Build or Construct it right from the start" is the best maxim in design and construction. Compromising the principle of good construction and design from the beginning is, in the end, more costly than doing it right from the beginning. Immediate attention to minor details of the plan van ease the maintenance burden.

viii Preventive Maintenance

This is the continuous, regular attention and care to prevent damage and costly repairs. This indeed is the purpose of preventive maintenance for optimum life from facilities and equipment often used.

PROTESTS

(1) Protests shall be made to the referee in writing within 30minutes of the occurrence.

(2) A protest, the reason of which is known beforehand, shall be made before the start of the contest.

(3) No protest shall be made against the marks awarded by the judges.

(4) Decisions concerning protests shall be given by the jury of appeal

(5) Protests against incidents not covered by these rules shall be referred to the international diving committee of FINA, which shall consider them as quickly as possible.

TECHNICAL SPECIFICATIONS FOR DIVING FACILITIES

1) The boards shall be at least 4.8m long and 0.5m wide and shall be approved by the international diving committee before the contest begins.
2) The boards shall be provided with a satisfactory non-slip surface, subject to the approval of the international diving committee.
3) The springboards for the Olympic Games, world championships, and international contests, shall be provided with movable fulcrums easily adjustable by the diver.
4) The distance between the surfaces of the supporting platform to the underside of the board shall be at least 0.25m. When the fulcrum roller (0.75m long) is placed 0.25m back from the front edge, this distance shall be increased by 0.005m.
5) The minimum distance recommended from the rear to the Centre line of the fulcrum shall be according to the recommendation of the manufacturer of the springboard.

6) Springboard events in the Olympic Games and world championships shall be held from the 1m and 3m boards.
7) The springboard shall be installed dead level when the movable fulcrum is centered.
8) The following minimum dimensions in metres for diving facilities exist, using, as a basic measuring point of reference, the plummet line, which is a vertical line extending through the centre point of the front edge of the diving springboard or platform:

	1metre Springboard	3metre springboard
From plummet back to pool wall	1.50 min.	1.50 min.
	(1.80 pref.)	(1.80 pref.)
	2.50	2.50
From plummet to side wall	1.90 min	1.90 min
	(2.40 pref.)	(2.40 pref.)
From plummet to adjacent	9.00	10.25
Plummet	5.00	5.00
From plummet to pool wall ahead	2.50	2.50
On plummet from board to ceiling overhead		
Side of plummet	5.00	5.00
Clear overhead, ahead of plummet	3.40 min	3.80min.
Depth or water at plummet	(3.80 pref.)	(4.00 pref.)
Distance, and depth ahead of plummet at distance	6.00 distance	6.00
Distance, and depths each depth	3.30 min. depth	3.70min.

Side of plummet at	(3.70pref.)	(3.90 pref.)
Distance and depths each distance	2.50 distance	3.25
side of plummet at depth	3.30min depth	3.70min.
	(3.70 pref.)	(3.90 pref.)
Maximum angle of slope to reduce pool Bottom beyond full depth requirements	30 degrees	30 degrees
Maximum angle of slope to reduce ceiling Height beyond clear height requirements	30 degrees	30 degrees

PLATFORM DIVING

1) Each platform shall be rigid
2) The minimum dimensions of the platforms are:

1.0m platform	0.6 m width	4.5 m length
3.0m platform	1.5 m width	5.0 m length
5.0m platform	1.5 m width	6.0 m length
7.5m platform	1.5 m width	6.0 m length
10.0m platform	2.0 m width	6.0 m length

3) The thickness of the front edge of the platform shall be a maximum of 0.20m and can be vertical or inclined at an angle not greater than 10degrees to the vertical inside the plummet line.

4) the platform shall be covered throughout with a non-slippery surface subject to the approval of the international diving committee.

5) the front of 10m and 7.5 m platform shall project at least 1.5m beyond the edge of the pool. For 3m and 5m platforms, a projection of 1.25m is acceptable and for 0.6m-1 m platform a projection of 0.75m is acceptable.

6) where a platform is directly underneath another platform the platform above shall project 0.75 m to 1.5m beyond the platform below.

7) the black and sides of each platform (except a 1m platform) shall be surrounded by handrails and these shall be with at least two crossbars placed outside the platform beginning 0.8m from the front edge of the platform.

8) each platform shall be accessible by suitable stairs (not ladders).

9) it is preferable that a platform should not be constructed direct under any other platform.

GENERAL BASIC RULES IN SWIMMING

1) The height of the springboards and each platform above the water level may vary by plus 0.05m from the heights prescribed in the rules.
2) In the area of full water depth, the bottom of the pool may rise up to 2%. In the diving pool, the depth of the water shall not be less than 1.8m at any point.
3) In pools for the Olympic Games and the World Championships the dimensions shall be the prescribed dimensions set out in these rules.
4) In outdoor pools, springboards and platform are recommended to face north in the northern hemisphere and south in the southern hemisphere.
5) The minimum illumination at a level of 1 metre above the water surface shall be 500lux.
6) Sources of natural land artificial illumination shall be provided with controls to prevent glare.

7) Mechanical surface agitation shall be installed under the diving facilities to aid the divers in their visual perception of the surface of the water.
8) The water temperature in a diving pool shall not be less than 26 Degree centigrade.
9) The springboards shall be placed on either one or both the sides of the platforms
10) It is preferable that a platform should not be constructed directly under any other platform.
11) It is recommended that the seats to be provided for the judges should be at a height of 1.2 to 2.0m above the water level depending on the circumstance.

General Terms

1. **Amateur Definition:**
   i. No distinction between Amateur and Profession shall be made for competition who have registered in Masters Swimming, Diving, Water Polo and synchronized Swimming.
   ii. By competing, teaching, training, coaching or giving exhibition for payment received, directly or indirectly in money or in kind or for material advantage.
   iii. By taking part in any competition or exhibition with anyone who to his knowledge is not an amateur swimmer, except in team sports, approve lifesaving activities or when only in the armed services or master competitions.
2. **Jurisdiction:**

   Jurisdiction over swimmers. The amateur definition shall be binding on the members of every country whether at home or abroad. All affiliated countries shall mutually recognize:

a. That each is the only authority governing swimming, diving, water polo and synchronized swimming in their respective countries.
b. That they are the only bodies competent to regulate international regulations therein.
c. That each alone can select competitors from its nation to represent it at Olympic Games or any other international meet.

3. Requalification:

A swimmer who has broken the amateur law knowingly and thereby becomes a professional may not be prequalified as an amateur, provided that;

a. When special reasons or extenuating circumstances exists, a swimmer can be requalified as an amateur, though not until two years have elapsed since the breaking of the amateur definition.
b. If such reinstated swimmer wishes to take part in international competition, the full facts surrounding the case shall be presented to the Bereau for such action as the Bureau may deem necessary.
c. In every case of a dispute arising out of swimming, diving, water polo and synchronized swimming, the rules of the association under whose jurisdiction the meet is held shall have force, except during the Olympic Games and at World Championship at which period the Bereau shall have full powers. But a swimmer suspended in any country shall have the right of appeal only to his own association.

4. Costumes:

Competitors in all International events and in the World record performances shall wear respectively the following:

a. Males: swimming trunks, except the water polo players shall where trunks with an inner liner or additional support. The width of the band extending from the front to the rear in the area of the hips and waist shall be not less that 75cm in width; while Females appear in constumes of one piece devoid of open work except at the back.
b. The front extension for the legs shall not be less than 5.0 cm from the crotch and may be cut in a curved line extending upward and backward around the circumference of the length of the thigh, the highest point of this curved line shall not be less 10.2 cm below the crest of the hip bone.
c. The costume shall be cut not more than 11’5 from the sternal notch in from and not more than 2 inches (5.0cm) below the crease of the axillary fold of the arm in front.

5. Coaching:

Coaching shall not be permitted for the duration of any swimming, synchronized swimming or diving competition while the contest is in progress and in the case of the game of water polo while the actual play is in progress.

Tutor-Marked Assignment (TMA)

There are TMAs in this course. You need to submit all the TMAs. The best 10 will be counted. When you have completed each assignment, send it to your tutor as soon as possible and be certain that it gets to your tutor on or before the stipulated deadline. If for any reason you cannot complete your assignment on time, contact your tutor before the assignment is due to discuss the possibility of extension. Extension will not be granted after the deadline unless an extraordinary case can be established.

Tutors and Tutorials

There are a few hours of face-to-face tutorials provided in support of this course. You will be notified of the dates, time and location together with the name and

phone number of your tutor as soon as you are allocated a tutorial group. Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties, you might encounter and provide assistance to you during the course. You must submit your tutor- marked assignments to your tutor well before the due date. At least two working days are required for this purpose. They will be marked by your tutor and returned as soon as possible via the same means of submission.

Do not hesitate to contact your tutor by telephone, e-mail or discussion board if you need help. The following might be circumstances in which you would find help necessary. Contact your tutor if:

i. You do not understand any part of the study units or the assigned readings.
ii. You have difficulty with the self-test or exercise.
iii. You have questions or problems with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

You should endeavour to attend the tutorials. This is the only opportunity to have face-to-face contact with your tutor and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from the course tutorials, have some questions handy before attending them. You will learn a lot from participating actively in discussions.

Final Examination and Grading

The final examination for HKE 331 will last for a period not more than 2hours and has a value of 70%. The examination will consist of questions which reflect the Self-Assessment Questions (SAQs), In-text Questions (ITQs) and Tutor-Marked Assignments that you have previously encountered.

Furthermore, all areas of the course will be examined. It would be better to use the time between finishing the last unit and sitting for the examination to revise the entire course. You might find it useful to review your TMAs and comment on them before the examination. The final examination covers information from all parts of the course. Most examinations will be conducted via Pen-On Paper (POP) and Computer-Based Testing (CBT) modes.

REFERENCES

https://www.watersafetyusa.org (2019).

https://m.timesofindia.com (2019).

https://www.swimrightacademy.com (2019).

Ajisafe, M. O. (2009). Maintenance of fields, indoor halls and swimming pools. Headmark Publishers, 16 Stadium Road, Benin City, Nigeria. ISBN 978-34261-7-8. pp 1-19.

Babalola, J. F. (2010). Handbook of Practical Physical Education.

Goel, R. G. (1998). Encyclopedia of Sports and Games. Twelfth Revised Edition.

Lambersten, C. J. (1971). Underwater Physiology. Academic Press Inc. New York and London. Library of Congress Catalog Card Number: 72-137621.

Pivotal Teacher Training Programme (2000). National Teachers' Institute, Kaduna.

Garland, M. ((2007). The Sports Book. The Sports, The Rules, The Tactics and The Techniques. Published by Dorling Kindersley Limited, 80 Strand, London, WC2R ORL. ISBN 978-1-4053-1778-8.

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