

TRAINING DIARY

Fouesnant - FRANCE

Lund - SWEDEN

Meerbusch - GERMANY

HEALTH AND NUTRITION

Comenius Project 2011 - 2013



Lifelong
Learning
Programme

The fantastic journey of our pupils
across a healthy Europe





During the years of 2011-2012 and 2012-2013 the pupils from the three countries have worked together with their teachers to realise their Comenius project "Health and Nutrition".

They have been working in groups of three pupils, one French, one German and one Swedish.

This booklet is a mixture of knowledge, research on the internet and all information collected at lectures, meetings (etc ...) given in the different countries.

We have also been inspired by the book:

"Min Träningsdagbok" 2006-2007 by Kent Carlén, Kunskapsföretaget i Uppsala AB

The articles have been produced by the pupils and so have the drawings and the photos.

Thank you to everyone who contributed to this project.



This project has been funded and supported by the European Commission.



Project Coordinator and Coordinator for France :
Ann Marie Le Fur

Coordinator for Sweden :
Birte Möller

Coordinators for Germany :
Thorsten Wauschkuhn 2011-12
Daniela Tscheulin 2012-13

France	Germany	Sweden
Décosse Véronique Secretary	Becher Astrid Mathematics, Catholic Religion and Physical Education teacher	Hagberg Christina German and Swedish teacher
Duval Christine French teacher	Gathen Angela Geography and Music teacher	Möller Birte English, French and Physical Education teacher
Le Fur Ann Marie Physical Education teacher	Klofat Bianca English and History teacher	Persson Kjell Woodwork teacher
Ligen Elisabeth German teacher	Lehmann Jens English and History teacher	Tillgren Jens Physical Education teacher
Saouter Dominique Mathematics teacher	Nowocien Martyna Comenius assistant (2011/2012)	
Youinou Eric History and Geography teacher	Tscheulin Daniela French and German teacher	
	Wauschkuhn Thorsten German and History teacher (2011/2012)	

TUNASKOLAN

This booklet has been
made by pupils from...



Tunaskolan, Lund, Sweden



Realschule Osterath
Meerbusch, Germany



Collège Saint Joseph
Fouesnant, France



SUMMARY

1. Introduction (page 15)

2. What happens, when you're training? (page 17)

- The heart (page 17)
- Exercise and intelligence (page 19)

3. Warm-up : Why and how? (page 23)

4. Different sorts of training (page 27)

- Fitness training (page 28)
- Swedish Gymna (page 29)
- Distance training (page 30)
- Interval training (page 30)
- Muscle training (page 31)
- Mental training (page 34)
- After training : Stretching (page 37)

5. What happens when you don't take care of your body? (page 41)

A. Health dangers and diseases (page 41)

- Back pain (page 41)
- Myocardial Infarction (page 41)
- Obesity, Anorexia and Bulimia (page 41)

B. Addictions (page 45)

- Smoking and alcohol (page 45)
- Sports and Doping (page 46)

6. Training and Nutrition (page 49)

- Different types of energy (page 49)
- Nutrition (page 51)
- Good nutrition (page 53)
- How to eat before training (page 54)
- The importance of having a healthy life (page 56)

7. Some good advice (page 59)

- Careful, Please! Too Much salt! (page 59)
- Clothes And Training (page 59)

Example of a week of training (page 63)

Training diary model (for about 2 months) (page 65)

8. Conclusion (page 71)



« HEALTH AND NUTRITION »

Fournant-France, Meerbusch-Germany, Lund-Sweden

European thinking is guided by the objectives of the WHO (World Health Organization) on the eight key competences for education and training, recommended by the European Parliament.

« Learning by learning »

« Learning by moving »

- Gain new knowledge to take part in a regular physical activity
- Explore nutritional and cultural habits
 - Use English in real conversations
 - Prepare the future
- Communicate the message to the future generations

Our participants are students from 13 to 15 years old following a normal course and students with disabilities or school difficulties. Also involved are the teaching and educational staff, parents and participants from the worlds of education, work, sport and local communities.

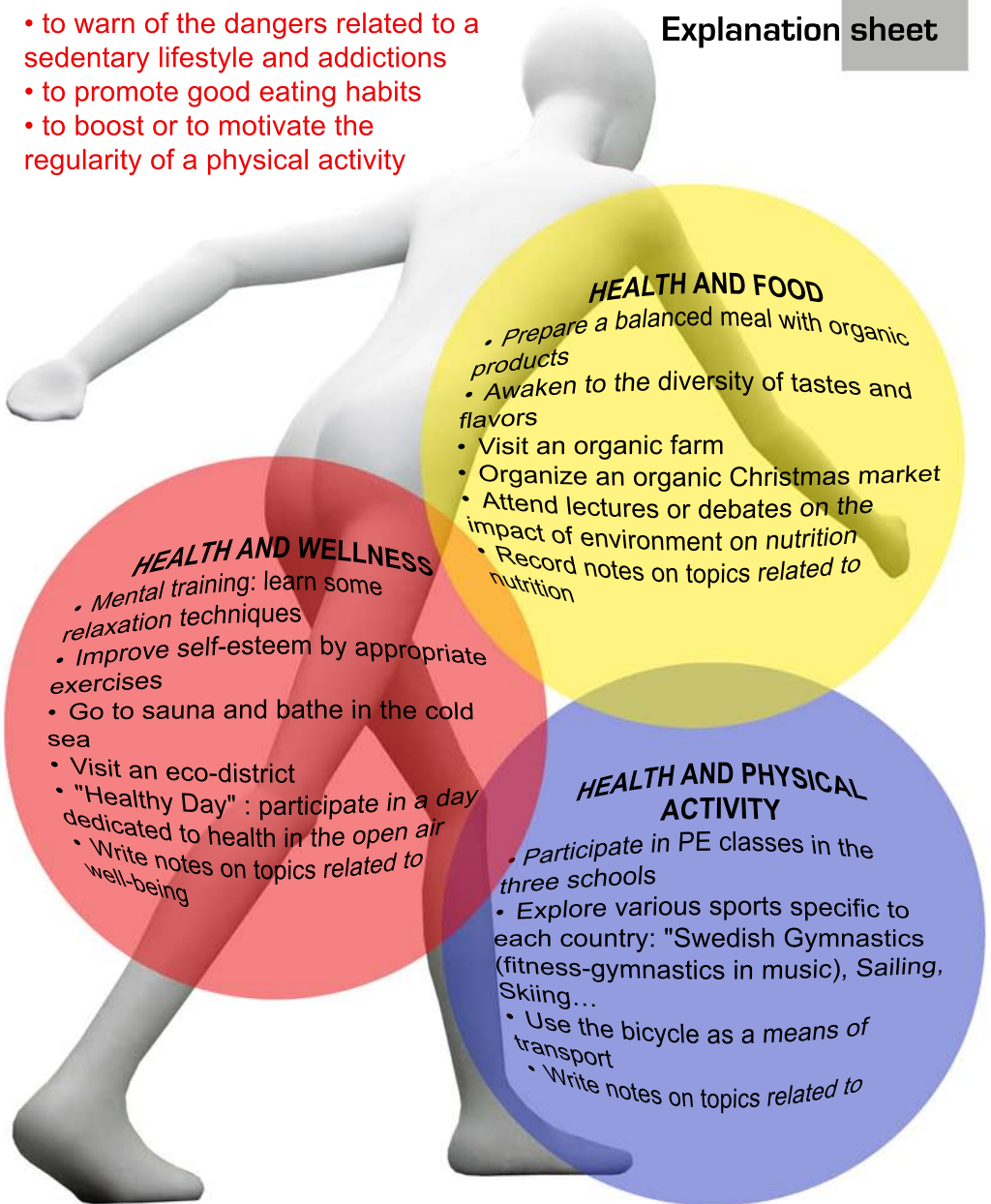
« MENS SANA IN CORPORE SANO »

- Build one's future by discovering jobs concerning health
- Get to know the natural heritage of each country to preserve it in a better way
- Find another way to look at the differences in participating in activities with young people, or people with learning difficulties, etc...
- Participate in a joint project to learn how to get involved, to take responsibility or to work effectively in groups...
- Make an oral presentation in front of an audience : learn how to express oneself, how and control one's fears, learn how to assert oneself and finally how to gain confidence and self esteem

IT IS URGENT :

- to warn of the dangers related to a sedentary lifestyle and addictions
- to promote good eating habits
- to boost or to motivate the regularity of a physical activity

Explanation sheet



- Create all together "a booklet of training and consulting, "where everyone could find the keys to improve one's daily life
- Communicate via a blog

During our work, we took advantage of three experts' knowledge.

Doctor Reinhard Klofat
Doctor in internal medicine Meer-
busch, Germany

Healthy eating can be quite complicated for young people with so much fast food everywhere. Many of our pupils have to learn how to make the right choice of food.

Therefore some simple rules which are easy to remember are necessary :

- Try to have 5 portions of fruit, vegetables or salad every day.
- Cut down on fast food and sugar.
- Do some exercise every day especially if you tend to put on weight.
- If you want to use the after-work burning effect of extra calories, it is advisable to do High Intensity Interval Training.

All this will only work if there is sufficient support in the families and of course in schools.

Good luck!



Yamandu Peralta **The coach of Quimper Volleyball,** **France**

Some advice for young people who want to be healthy sportsmen :

A good and healthy nutrition.
Sleep enough every night.
To be regular in your training.
Warming-up correctly before your training session.
Build up aims and manage to reach them.
Fair-play in all circumstances of your sporting life.
Good luck!



Magnus Eneroth **MD, PhD, Associate Professor** **Head of Department of** **Orthopedics** **Skåne University Hospital** **Sweden**

Skåne University Hospital decided to participate in the Comenius project regarding lifelong learning due to the important objectives of the project and since we have a specific interest in the chosen focus areas "Health and Nutrition". We were happy to be able to have international authorities and elite athletes speak about overweight in young people, the positive effects of physical activity on health and intelligence and training in elite athletes.





This booklet belongs to...

NAME

DATE OF BIRTH

SCHOOL

PHYSICAL EDUCATION TEACHER

CLASS

ADDRESS

PHONE

FAVOURITE SPORTS

HEALTH

MEDICINE



MEA

1. Introduction

Physical fitness can mean two things. One is that you are healthy and the other one is that you train to get healthy and fit.

Fitness training means that you train your heart so that it gets stronger and provides each pulse beat with more blood and oxygen. The stronger the heart gets the lower the resting pulse. More blood vessels are created in the heart. To be able to achieve this, the most important thing is to choose the right nutrition and to get enough rest.

Another thing to think about is the “Fitness triangle”, consisting of mental, social and emotional exercise. These are also said to be important for living a healthy life.

It's important to exercise, not too much but a little every day, to live a happier, healthier and longer life. This helps you to get a healthy lifestyle.

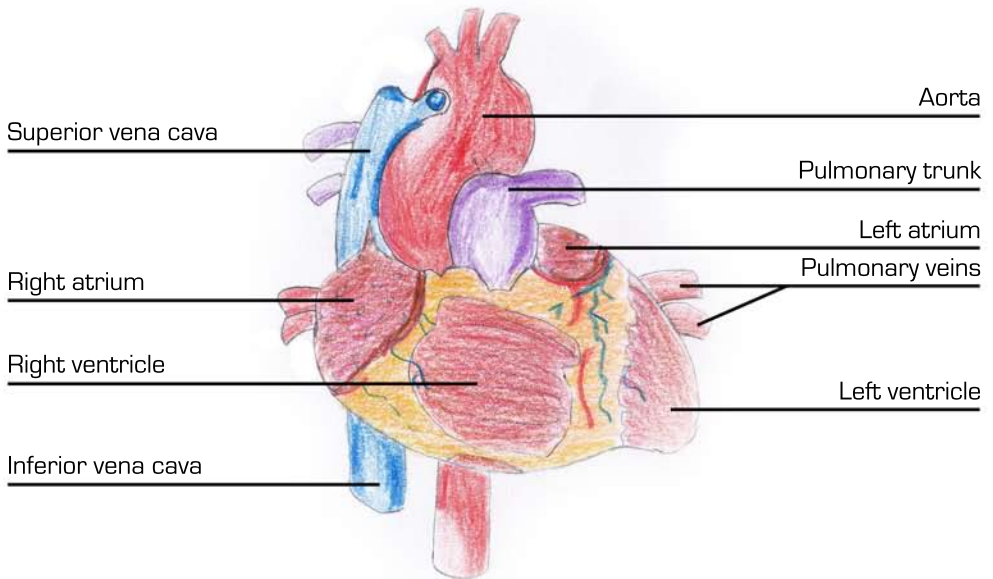
You will also be able to sleep better and it is also proven that you get smarter by exercising.





2. What happens, when you're training?

The Heart



The heart is the most powerful muscle in the human body.

These are the parts of the heart. Your heart is about as big as your hand. The heart is the organ which makes the blood go around in the body. The blood takes up oxygen from the lungs and after that it transports it to the muscles. The blood also transports the waste to the kidneys. The heart is very important for how much you can perform in physical activities such as running marathon, playing football for example. While training, your heart gets stronger. It means that the heart can pump out more blood in one beat. The heart also gets more blood vessels which is a very good advantage if you get a myocardial infarction.



The pulse is a way to see how well trained your heart is. You often measure your pulse in the so called resting pulse. Having a high pulse is not very good. That means that you haven't been training much. That also means that you have a higher risk to get cancer or heart problems. If you are a person who trains you should have a low pulse. That means that your heart is strong and that you live in a healthy way. A heart pumps out blood 60-80 times a minute. The heart pumps out about 70 ml blood each time. When you train your cells and muscles need more oxygen than they usually do so the heart must pump out much more blood than it usually does.

The way of the blood in the body :

When the blood has given the oxygen to the cells in the muscles it returns to the heart filled with carbon dioxide. The blood comes into the right atrium, then the right ventricle and after that it flows up to the lungs where we breathe out the carbon dioxide. The blood gets fresh oxygen and comes back to the heart, first to the left ventricle and then to the left atrium. Then the blood returns to the muscles and once again drop oxygen so that the body can function the way it should. In the blood there are two kinds of blood corpuscles. One is called white blood corpuscles and they help you not to become ill. They send out **antibacterials** which defend the body against ill-health. The body has also red blood corpuscles. These bodies are the ones that make the blood look red.

That's because they contain hemoglobin. You should eat a lot of food with iron and vitamin C because the body makes the hemoglobin out of these substances. The red ones are the blood corpuscles that carry the oxygen to the muscles. You have about 1000 times more red blood corpuscles than you have white ones.

2. What happens, when you're training?

Exercise And Intelligence

Does exercise and a healthy lifestyle make you smarter ?

Recent studies have shown that this may be the case. The Proceedings of the National Academy of Sciences have published a study in 2009 that shows a direct correlation between Intelligence Quotient (IQ) and one's physical fitness. It was conducted on 1.2 million Swedish military enlisted men, all born between 1950 and 1976.

The results also showed that being physically fit at a young age can increase your chances of being academically and professionally successful later in life. The study specified that cardiovascular training (such as running) is linked to higher scores on intelligence tests, while strength training showed little connection. According to Dr. Michael Nilsson of the University of Gothenburg, co-author of the study, "Being fit means that you also have good heart and lung capacity and that your brain gets plenty of oxygen. This may be one of the reasons why we can see a clear link with fitness, but not with muscular strength."



A separate study published in the New York Times has showed a similar trend in younger children, as young as 9 or 10 years old. The research involved intelligence tests and magnetic resonance imaging (MRI) technology. The study concluded that children who were physically active were more mentally coordinated. The physical fitness had enlarged the part of the brain that maintains intelligence.

As a result, it is fairly clear that being physically fit does make you smarter, in addition to increasing your chances for success later in life.

Will You Get Smarter If You Get Fit?

It's said that if you work out and get fit, you'll increase your intelligence and get smarter. But is it really true?



Well, scientists have done quite many experiments where unfit and fit people of the same age were taking intelligence tests. Surprisingly, the people who were fitter than the others almost always got the best scores ! There was for example this Swedish experiment with identical twins that were put to IQ tests. Of course, the one who was fitter turned out to be the smarter one too. Amazing isn't it?

But you don't need to train very hard to improve your scores. Just taking a walk for about 20 minutes a day will soon show in your test results. Though harder training will show even more.

How is exercise linked with our brain then?

When we get fit, the heart is capable to pump up more blood, oxygen and glucose into every part of the body, including the brain. When that happens, more oxygen and glucose reach the areas in our brain that are responsible for our memory, learning ability and concentration and they get more active. In other words, if we get fit, we'll concentrate on our studies much easier, for example remember words in another language better and

2. What happens, when you're training?

increase our learning abilities. Especially your language vocabulary and your logical thinking will be affected.

Working out will also reduce your stress, depression and fatigue and will make your studying much easier. You'll be happier and calmer than before. You won't get that tired from doing stuff either.

But it isn't true that you'll get smarter just like that if you work out. Exercise is just a helping hand in studies. It will just keep your brain fresh and active when you are studying and keep you more concentrated but nothing else. Besides, it's not only exercise that will help you get smarter. Other things that can help are playing an instrument or listening to music. But still the essential thing is studying ! Intelligence can't be obtained in any other way than studying. Though eating properly and getting enough sleep are very important too. Without it your exercise won't be counted for as much.

There is also a theory that if mothers work out during pregnancy, their children will get more nerve cells in the parts of the brain that are responsible for intelligence. In other words, the children will get an opportunity to be smarter. This theory is based on an experiment that was carried out on rats. It was a rat-mother that was "working out" during pregnancy...and her little rat baby got smarter because of that...We don't have proof that it works on humans yet...



3. Warm-up : Why and how?

Why?

The purpose of warming up is to prepare the body for coming work.

- The temperature in the body increases
- We prevent injuries
- We achieve better training results.
- You check your current physical status. You might have a small injury or virus
- Your focus increases and you feel sharp and relaxed
- The will to train and compete increases

How?

- The warm-up should last at least 15 minutes
- Clothing according to weather
- Start slowly and increase the tempo gradually
- The first part should be to warm up the general muscles
- The second part should warm up the special muscles according to the sport that you will practise
- Avoid sprints or fast movement changes
- End the warm-up with stretching



Here comes an example of warming-up :

Part 1

Start with moving :

Running
Jumping jacks
High knees



These exercises will :

- Warm up the muscles
- Raise the pulse rate
- Prepare you for the training

Part 2

Go on with movements without jumping :

- Bend your knees and arms – then straighten
- Bend your knees – then touch your knee with the elbow
- Bend your knees - then clap your hands under your knees
- Bend your knees – then straighten your arms over your head



These exercises will :

- Prepare your articulations for the coming work

Part 3

Now we do some small exercises such as :

- Rolling your shoulders
- Turning your hands
- Turning your ankles
- Bending your head forwards – backwards and to the sides



These exercises will :

- Warm up your joints

Part 4

Now, end the warming-up program with some light stretching.



3. Warm-up : Why and how?





4. Different sorts of training

There are many different ways to get fit. Here are some examples :

Aerobic Exercise :

Aerobic exercise helps prevent diseases and it is also good for your heart, since it helps your heart provide oxygen to your blood. Aerobics exercise means that you work out for a longer period of time, but you don't give the maximum you can, instead you exercise in a slower pace.

Anaerobic Exercise :

Anaerobic exercise is a little bit different from aerobics exercise, in the way that anaerobic exercise means that you work out for a shorter period of time : maximum is two minutes'time; but you work out intensely.

Both aerobic and anaerobic exercise are good ways of getting fit. You should do it three times a week for about 20 minutes each time.



Fitness Training

Fitness training works towards broad goals of overall health and well being. The definition of fitness training is dynamic work with the large muscle groups providing a pulse increase.

Fitness training is good in many ways. It strengthens your heart. It boosts your metabolism, gives you a better mood because of the release of endorphins. It prevents obesity. Fitness training is also really good for your blood circulation and it also lowers your blood pressure. Studies have shown that training overall prevents depression. Fitness training improves your strength and flexibility which you can use in specific sports such as tennis, soccer and floor-ball.

Fitness training changes your cholesterol in a positive way. It also prevents brittleness of the bones.



When you exercise and do fitness training your body improves its oxygen uptake and endurance. Improved oxygen uptake gives less lactic acid. Lactic acid is actually a symptom of lack of oxygen. The oxygen uptake is also a big benefit for your muscles.

If you keep a workout regime and a healthy diet your muscles get toned and you get healthy skin and nails. It also prevents organ failures.

4. Different sorts of training

A fitness program should include warm up. Then you should choose activities which increase the oxygen uptake such as running, spinning, aerobics, Swedish gympa, zumba among other sports. In the end of training you should stretch.

Most people don't know how often they should exercise not to break down their bodies. It is really important not to exercise too much, your body needs rest.

Swedish Gympa

Gympa is a sort of fitness training with music. You can practise the Gympa in summertime at the beach or in the winter in a sport hall.

You practise all together at the same time.

The Gympa prevents heart deasises, problems with your back and also helps against obesity problems.

It builds up your aerobic capacities, your ability to stretch, the coordination and also the force.

It also gives you motivation to practise a sport regularly.

In Sweden, the Gympa is really a sport which builds up your body to be fit as a complement to other sports.

All ages can practise the Gympa.

Let's go !



Distance Training

The purpose of distance training is to improve your ability to get the muscles to work efficiently for a long time or for a long distance in order to cope with a long-term activity. Distance training is when you're running. Not very fast. The pace itself isn't that important it's the actual time you're out running that counts. Therefore the speed should be relatively low and pleasing to create great feeling and rhythm.

As the name already says, it's about collecting kilometer distance. But it can be very different from person to person, depending on what level you are at.

When you're running distance your heart, muscles and joints are trained. Distance training prepares and adjusts the body for harder training. When your body is used to running you can do tougher training that develops your running.

Distance training can also serve as recovery after an injury.

Distance training increases fat loss and endurance.



Interval Training

When it comes to different types of running there is a type that stands out extra. It's called interval training. It is when you're running a little faster for a while and then jog calmly and then run fast again. Interval training is based on the general try to run faster for a distance and then take it easy for a distance equal to half the fast route. You can also run for three minutes and then walk for one minute and so on.

4. Different sorts of training

If you do interval training, you increase the oxygen circulation and muscle strength. It also improves your speed and endurance.

There are both advantages and disadvantages with this type of training.

The advantages are that this kind of training is very intense and burns a large amount of calories in a very short time. Interval training increases the metabolism to a very high level. With interval training you reach faster results.

As it has been said, it has disadvantages too.

The training can be very hard for your body and can lead to unwanted damage. Also interval training isn't the best exercise when you've started your training because it's very demanding. First you have got to build up enough stamina and strength in your body and then start to train harder.

It's recommended that you should do interval training once to twice a week if you are doing tough sessions. If you really want to exercise more you can do walking or long distance running.



Muscle Training

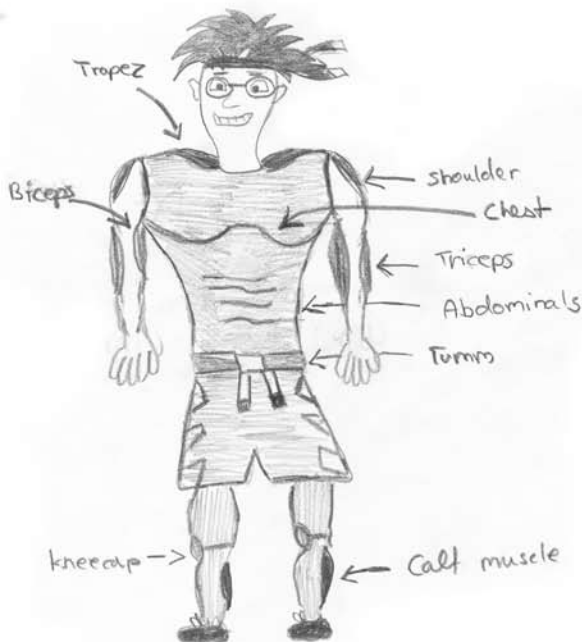
Muscle training is exercise that builds up muscles and makes them stronger. There are specific types of strength training that target and build up specific muscle groups in the body. When you use a muscle repeatedly during strength training, you actually break down the muscle. Afterwards, when you rest, the muscle builds back up, bigger and stronger than it was before. The most common tools for strength training are machines and weights, that can usually be bought and also accessed at a training facility such as a gym. Strength training can build up muscles in the upper and lower body. Muscles in the upper body include the pectoralis major [chest], the biceps brachii [arms], deltoid [shoulders] and the abdominal muscles [stomach]. Muscles in the lower body are primarily the butt and the legs, which consist of the gluteus maximus [butt], the quadriceps [thighs], the biceps femoris, semitendinosus, semimembranosus [hamstrings] and the peroneus [calves]. Studies have shown that even only a small amount of strength training can improve your health considerably and keep you fit.

Strength Exercises

There are various types of exercises in strength training. Some exercises can be done without any tools. Exercises like push-ups or sit-ups, that are common and easy to do at home, can be very effective and can also be done almost anywhere, at any time without the use of weights or machines that are found in training facilities. Push-ups are done by lying down on the ground on your hands and feet and using your arms to push up your entire body repeatedly. This trains your chest, arm and back muscles. There are many variations of push-ups that all change the type of exercise you get from them. Sit-ups are done by lying down on your back with bent legs and lifting your shoulders and head repeatedly. Doing these exercises strengthens your abdominal muscles and there are also many variations of them that vary in type and intensity.

There are lots of exercises involving weights. One of the most common weight exercises is curls. Curls are performed by holding a weight - either a barbell or dumbbell - with both hands and curling your arm to lift it up to your chin repeatedly. This focuses mostly on your biceps, the main muscle on your arms.

The pectoralis major (chest muscle) is used when pulling your arm into your chest, so when doing this while holding weights, the chest muscle is strained more and is built up faster. Weights can be used to work your upper body muscles, but also your lower body muscles. To train your quadriceps (thighs), you can do squats. Squats are the most popular weight exercise to train your legs, and they are done by holding a weight, keeping your back straight and bending your legs to lower yourself, then extending them again to raise yourself.



4. Different sorts of training

Take Care When Lifting Heavy Weights



The normal methods when training your strength is to use gravity or to use elastic forces. You should be very careful when training because sometimes some of the exercises will maybe make your back hurt and it can take a very long time to recover from.

The most important things when you lift heavy weights is to use your arms and legs not your back. If you lift lots of weights very often with using your back it is going to start hurting. If you are careful when lifting when you are young it will be easier when you are old.

Scientists are trying to find out the best way to get muscles and one of is to hold back the resistance in the weights you are lifting. You can do it by lifting up a heavy weight and then resisting when going down. When you lift weights you should not take the heaviest one that you almost can't lift. You should take a weight that you can lift for a while till you get tired. Do not overestimate your strength when training and only use the weights you can lift really well. The best age to start with light weight training is between 14-16 years old. Young people should train with light weights and many repetitions. If you want to lift heavier weights you will have to wait until you are 18.

If you don't eat when training you won't get muscles, instead you burn them. If you want to lose fat you have to burn more calories than you eat. Different substances in the food are very important to build muscles. The food circle is a good method to use when you plan your dinner. Things as candy or crisps are bad to eat in connection with training.



Mental Training

Mental training has for 50 years been a positive resource to performance in physical training. One of the first Swedes to use this method as an athlete was the Swedish ice-skater Tomas Gustavsson, who after using this method won several medals in ice-skating. With mental training you can improve your abilities and improve your results. Mental training can also help you improve yourself as a person in other levels of social life since through mental training you can learn to communicate better. You can also use this in your school work and then it can improve your results. With the help of mental training, an athlete can develop his self-confidence and can deal with approaching challenges more easily. With mental training you can accept failures when they come.



There are many different ways to do mental training, but relaxing your body in different ways is one of the best. Activities such as yoga, meditation and tai-chi-chuan give you more energy and for many people this is now a lifestyle which helps them through their daily life. When training with these activities you become calmer and for a lot of people, these methods are a great way to escape from stress in their lives.

There are many sorts of mental training and every sort gives special improvement to athletes. There are several studies of positive thinking that through years have showed athletes gain better results if they have "positive thinking" scheduled during the day.

Mental training is a great way for you to get to know your limits, how much you're able to handle and to press yourself further on with your results.

4. Different sorts of training

A psychologist has come to a conclusion that there are four points that those who use mental training can gain compared with those who don't use mental training :

- They have a better picture of themselves
- They have ambition, better motivation and better self-confidence
- They are more optimistic and positive, and they see problems as challenges
- They have a special ability to keep the good feeling that a victory gives them

Talking and attending lessons are part of mental training. Not keeping feelings to yourself, and actually enjoying social life outside physical training. Pushing, being pushed, cheering and being cheered on can help you reach better self confidence.

“Team building” is also part of mental training. Cooperation within a team, helps building a better team spirit, and can make the individual feel more confident in the team.

Working as a team and supporting each other also builds confidence. Doing cooperative exercises outside the sport that you practise, is part of the training. Before a match, you can also cheer each other up.

“Positive thinking” is linked with another method in mental training called “goal thinking”. When you do this, you think in a positive way and you see yourself reaching a goal you aim at, this is visualization.



This method can be used for both very far away goals and very close goals. With this method you keep believing that you can make it and that you have a positive thinking even when you have setbacks and misfortunes. The mental part is as important as the physical skill.



Before a game, people tend to prepare in many different ways. You mostly do the things recommended by the doctors or support and cheer up yourself. There are people who have their own ways to prepare. Mostly this is about superstition. Some people have the same clothes on them during a whole season, lucky socks or something else. Some others always have to do a certain thing before a game, like the English football player who always stepped out of the dressing room without a T-shirt. Another example is the Swedish ice hockey player Tommy Söderström who always has to eat a kexchoklad (Swedish candy) and an ice cream some hours before he plays.

4. Different sorts of training

After Training : Stretching

Stretching : Why And How?

So, what is stretching? It can be defined as "extending a muscle in order to effectively stretch it out" and is one of most animals' basic reflexes. For instance, we sometimes see cats yawn and stretch out. We usually stretch when we get up from bed in the morning, after a long period of non-moving, or even just when we yawn. When we think of stretching, though, the above isn't what first comes to mind. We think of stretching as something you do after warming-up and after exercising.



Why Is Stretching Important?

- Decreases muscle tension
- Improves range of motion
- Improves posture
- Improves circulation
- Reduces muscle soreness
- Improves your ability to relax
- Allows time for mental training, such as visualization

Stretching can take as little as 10 minutes. You can stretch pretty much whenever you feel like it, but make sure to make it a routine to always stretch after exercising. If you feel tension in your neck or back while sitting at your desk, get up and stretch. If you're at the gym, feel where tension is and stretch. This also applies to when your legs feel tight,

or if you have been in your car for many hours.

There are seven "basic" muscle groups that are usually stretched: Soleus [calf], Iliopsoas [hip flexor], Quadriceps [front thigh], Hamstrings [rear thigh], Gluteus [gluteal muscle], Pectoralis [breast muscle] and Trapezius [top and middle parts of the back]. These are the muscles that most people tend to stretch in connection with exercise. The most basic stretching positions that we are taught include these muscles. There are, of course, more muscles that may be stretched at the same time.

When being instructed how to perform a stretching motion, we usually follow another person that shows us how to do it, or even look at images depicting the stretches. This is because stretching is incredibly hard to describe accurately.

Here a stretching program :



To stretch there are 3 different techniques.

Let's start with static stretching, you stretch your muscle until you feel a slight tension in the muscle you are stretching. After that you hold it and, while slowly breathing, you stretch it a little bit further. Relax all the other muscles and don't bounce.

4. Different sorts of training

To increase the effectiveness of the static stretching you should do around 10 minutes of light warm-up beforehand and then repeat.



The second technique is called PNF which stands for proprioceptive neuromuscular facilitation. PNF is when you stretch against resistance such as persons or a wall .



Then you can create isometric contraction which is tension without movement. For a muscle to efficiently stretch during this, you should stretch for 10-30 seconds and then release because then the muscle will be stretching out.

When you do this you trick the brain into thinking that the muscle is looser than it really is. When you do isometric training the muscle length changes and the receptors widen and relax. The brain releases the tension in the muscle and with that the muscles can stretch a bit longer. It works with all muscles and every time.



The third type is ballistic stretching which is an aggressive stretching with bouncing motions and rapidly stretching the muscles and tendons. This sort of stretching is not good if you're an athlete because there is no advantage in it and in this sort of stretching there is a chance of straining tendons or muscles. College teams usually use it during dynamic sessions.

5. What happens when you don't take care of your body?

A. Health Dangers And Diseases

Back Pain

Back pain is a common injury. It's one of humanity's most common complaints. It's also called dorsalgia. Back pain is best prevented by developing a supporting muscle corset. Stomach and back-muscles are especially important to prevent for example a slipped disc.

Of course it's very important not to stress the back in a faulty way and by subjecting it to a lot of pressure. You prevent that from happening by exercising and by lifting in a proper way. The pain usually comes from muscles but can also come from bones, nerves and joints.

Myocardial Infarction

The heart gets more blood vessels when you train. If a myocardial infarction occurs, it will be a big advantage if you have exercised regularly. We are now going to tell you why : When a clot of blood gets stuck in one of the blood vessels that part of the heart may die (myocardial infarction). If your heart has many blood vessels, due to training, your chance to survive increases by three. After a myocardial infarction the doctor will tell you to exercise cautiously but regularly since exercising will help you to be more resistant to a relapse.

Obesity, Anorexia And Bulimia

Obesity

Obesity is a disease that's increasing among children and adults around the world.

The disease occurs if you regularly eat more calories than you are able to burn. The energy is stored as fat, and increases every time you eat. If you don't train regularly to get rid of all the extra calories, you are probably going to become fat.

Eating too much is not the only way to get obese. The disease runs in the family. If your parents' bodies store fat easily, your body is probably going to do the same. Then you have to eat less or exercise more.

Obesity and even a light overweight can cause your body and bones damage. You may have an increased risk of diseases. Or if you're already ill the illness may become even worse. The risk of getting several types of cancer and diabetes type two is bigger if you are fat and not exercising.

Obesity can cause psychological damage too. People with obesity usually have bad self-confidence and some are even depressed.

To prevent obesity and overweight you have to eat healthily. It's also important to follow the "plate model", which means that you should eat as many vegetables as you eat meat and starch.



To prevent overweight, you should also exercise regularly every day.



People with obesity can follow a diet to get rid of their overweight.

5. What happens when you don't take care of your body?

Bulimia Nervosa

Bulimia is a sort of eating disorder. You binge and then you throw up. Girls around 15-25 often suffer from bulimia. They do this because they don't want to gain weight.

This may happen to a person with bulimia :

- Your concentration gets worse
- You get sleep problems
- You get stomach and intestine problems
- You get irregular menstruation
- You get discoloured teeth
- You get ulcer
- You get broken blood vessels in the eyes
- Your mouth gets dry
- You get pimples
- You get small cuts around your finger tops
- Your skin gets loose and dry
- Your hair gets thin and dull
- You get lack of energy
- You get depression
- Your fear to gain weight increases
- You get anguish
- You easily get dizzy
- You are ashamed of yourself
- You have low self-confidence
- Your cheeks swell
- You get enamel erosion
- You get gum disease

If a friend of yours or a sister disappears to the toilet after every meal, smells like vomit, you should get a bit suspicious, it is a big risk that she or he has bulimia.

If you look at a magazine you see how thin everyone is, you may feel fat. You want to lose weight and look like the stars.

If someone in your family has bulimia the risk is that you will get it even more. And also if your parents talk a lot about how skinny you are and what you look like, it is a bigger risk for you to get bulimia.

Traumatic events such as rape may result in bulimia.

Your personality, like having problems with hunger and if you think you look fat may result in bulimia.

And your genes, hormones and chemical substances in the brain can result in bulimia.

Anorexia

Anorexia nervosa is an eating disorder that mostly affects girls and young women aged 12-20 years but boys and young men can also get the disease. Anorexia is a very serious and dangerous disease because the patient sets targets how much he or she may eat and starts exercising a lot. They put up a target weight, but when they have reached the target weight they don't stop losing weight, they continue to lose weight more and more. The patients shun away from people, such as family and friends because they may comment that the person eats too little and try to get them to eat more. The victims often refuse to admit that they are sick. They get tired and cannot perform tasks such as schoolwork, a lot of time is spent thinking about the disease. When he/she looks in the mirror, they see a fat person but others who see him / her usually just see a skeleton. The internal organs may be damaged, double vision, dizziness, sleep disturbances, fatigue, excessive hair growth on the body, muscles dystrophy. Prolonged anorexia may be adversely affecting the heart muscle and create depression.

Anorexia may occur for example by bullying at school. People may say you're fat, perhaps you have family problems, or that other people feel lighter. You compare yourself to today's ideals.

If the disease goes too far, you may need to be hospitalized. It can damage organs and heart. Sometimes it can even lead to death. Approximately 50% of those who die from anorexia commit suicide, the rest die by starvation.

To cure anorexia you may in the beginning, for instance go to groups with other young people suffering from anorexia and eating disorders. You can also go to specialized psychologists. It is good if the family can help and assist the affected one. Siblings may also need to go to groups to learn about the disease. If the condition continues for years without getting better, you may even have to be taken into hospital / rehab. The prognosis after some years is usually that 50% of those with anorexia get quite well, 30% better and 20% remain chronically ill.

5. What happens when you don't take care of your body?

B. Addictions

Smoking and alcohol

Smoking And Tobacco

Smoking is one of the most dangerous things for your heart and your lungs. Smoking increases the odds of your getting lung cancer, myocardial infarction and also of getting a heart attack. When you breathe in the smoke, your body takes up carbon monoxide. The carbon monoxide prevents the red corpuscles from absorbing the oxygen and makes it harder to breathe.

It also gives your lungs some black spots which show that you have a bigger risk of getting lung cancer. If you smoke a lot, your lungs get black. Tar also enters the lungs which attacks them .

You also get addicted to smoking, and it is harder than you think to stop smoking. There are some medical gums, they say that it is supposed to help you to quit smoking.



Smoking, Alcohol and Energy Drinks.

These drugs and drinks impair your oxygen uptake and increase the risk of getting lung-cancer, it damages your taste and smell. You lose the fitness of your body since you can't take up as much oxygen as your body needs. There is a saying that each cigarette shortens your life by fourteen minutes.

Alcohol is not digested: it passes directly from the gut to the blood vessels. Within minutes, the blood carries to all parts of the body.

In the short term and when consumed in large doses, alcohol causes intoxication and can lead to digestive problems, nausea, vomiting...Drinking a large amount of alcohol in a short time causes a rise in the rate of alcohol, which then falls depending on the amount drunk: only time can bring down. If you drink without eating, alcohol passes quickly into the bloodstream and its effects are more important.

Alcohol consumption may pose major risks:

Reduced alertness, often responsible for traffic accidents, accidents at work, loss of self control that can lead to violent behavior...etc.

Regular consumption when it is excessive (or beyond the thresholds of 2 to 3 glasses a day) increases the risk of many diseases: cancer (including the mouth, throat, esophagus etc.), liver disease (cirrhosis) and pancreas, cardiovascular disease, hypertension, nervous system diseases and mental disorders (anxiety, depression, behavioral disorders).

Sports and doping

All performance-enhancing drugs are illegal and if you use them it's called doping. Doping is an illegal way to make your body perform better, by telling your body to build more muscles and develop them in an unnatural way. In big competitions and events, all sportsmen are tested for traces of these drugs in the blood. If it is discovered, the sportsman is not allowed to compete for a certain amount of time until doctors confirm that the drugs are gone and that he/she can compete again.

The will to be able to work harder and suffer less when doing so goes way back to Antiquity. Doping was declared illegal in the year 1928, but testing at the Olympic Games didn't start until 1966. Before that, we could just believe the sportsmen's word. Many of them were obviously dishonest about it, but they were still able to compete. This must have been the period of time when athletes cheated the most.

Blood doping

To be good at endurance sports your body needs a lot of oxygen. In the lungs, the oxygen in the air adheres to red corpuscles in your blood. The more red corpuscles there are, the better the performance is.



5. What happens when you don't take care of your body?

If your physician draws blood from you several times a few months before the competition and then puts it back just before the event, you get an abnormal quantity of red corpuscles. Thus you can take up more oxygen.

Another way to increase the amount of red corpuscles is to consume a substance called EPO which makes your body produce more desirable corpuscles.

An admitted way to reach the longed-for state is to train for some time at high altitude. In the mountains, there is less oxygen in the air and your body produces more red corpuscles to make up for that. Back at sea level you can now perform better.

Hormone doping could lead to disaster for your body. Hormones occur naturally in the body, and if you disturb the body's natural rhythm, it may change. It has happened quite a few times that sportsmen have developed their body into the different sex. Men have developed breasts, and women have grown a moustache.

Ben Johnson was a proud Canadian before the drug test took him down.

He was a good runner with really good times on his race. When he was tested positive for drugs after winning two gold medals, his world fell apart. Just three days after he was the hero, he lost everything. Canadians call him an "embarrassment". He was banned for two years from racing. Afterwards he tried to come back three times, but the tests were positive every time.

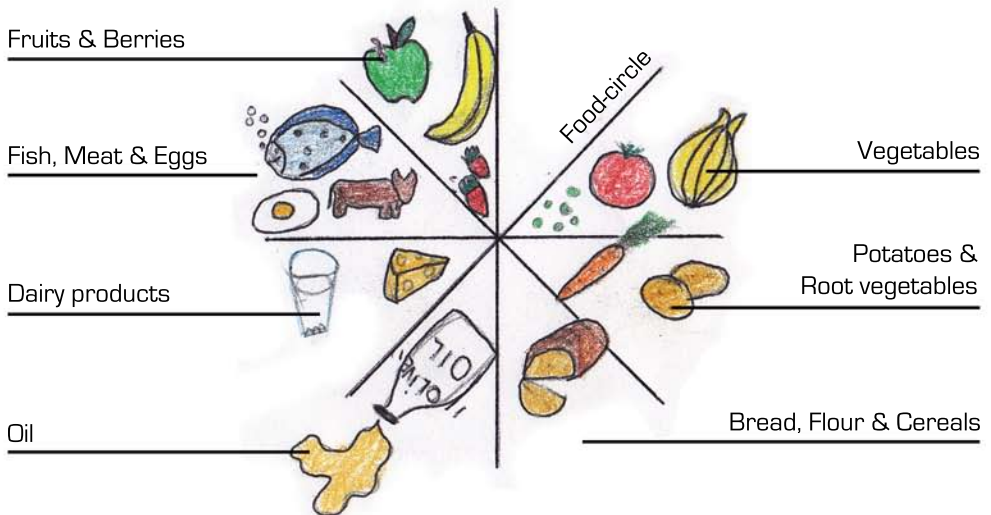
Today we have very strict rules about doping. One bad thing is that it can be very hard to find it, even if you test. The development of drugs is as quick as the testing technology.



6. Training and Nutrition

Different types of energy

Energy comes from three classes of food called carbohydrates, fats and proteins. Each is important, not only to fuel athletic performance but also for overall health and well-being.



Carbohydrates

During short and intense exercise like sprinting, carbohydrate is the only fuel capable of supplying the body with energy quickly enough. In the first few minutes of activity, it is carbohydrates that almost exclusively meet energy demands. Carbohydrates also play a key role in central nervous system function. The brain for example, uses glucose almost exclusively as its fuel. One gram of carbohydrate contains four calories and comes in several different units.

Monosaccharides are the most basic unit of one gram of carbohydrate and contains four calories and come in several different units. Examples of monosaccharides including fructose, can be found in fruit. Glucose is also called blood sugar. Cells can use the glucose found in food directly for energy, while fructose is converted to glucose in the liver.

Combining two monosaccharides results in a different carbohydrate called disaccharide. Sucrose or table sugar is a disaccharide and it's the result of combining glucose and fructose. The sugar in milk, lactose, is another disaccharide. The collective name for both monosaccharides and disaccharides is simple sugars. Simple sugars are quickly absorbed by the body and provide a quick source of energy. Simple sugars such as fruit are a good food choice to refuel your body after a game when the body's energy stores are low.

Polysaccharides is the third type of carbohydrate and is a combination of hundreds of monosaccharides joining together. For some examples: bread, potatoes, rice and pasta. Polysaccharides or "slow carbohydrates" take a longer time for the body to break down so they release their energy over a longer period than simple sugars. These kind of carbohydrates are good to eat if you are going to exercise over a long time.

Fat

Fat contains more than twice the amount of energy as carbohydrate. A single gram contains nine calories and this makes it a valuable source of fuel for longer duration activities. Fat cannot supply energy quickly enough for very intense activity. Instead it can be used by the body to power lower intensity exercise such as jogging and walking. Fat also provides insulation and protection to vital organs such as the heart, lungs and liver and transports vitamins throughout the body. Like carbohydrates, fat can be broken down into several different groups.

Saturated fats are found in food such as red meat, egg yolks, cheese, butter, milk, pies and cookies. The typical diet in western countries consists of almost 40% fat. Of this is 15% made up of saturated fats, which is considered a major cause of coronary heart disease, diabetes and other illnesses. To eat healthy no more than 10% of the diet should come from saturated fats.

Unsaturated fats come in the form of monounsaturated fats and polyunsaturated fats. Monounsaturated fats can actually lower the risk of coronary heart disease and are found in food like olive oil, canola oil, avocados, almonds and pecans. Polyunsaturated fats found in sunflower oil, safflower oil and corn oil are not thought to contribute to heart disease but don't offer the same protection as monounsaturated fats.

Essential fatty acids are a class of polyunsaturated fats that have received a lot of attention in the media recently. They are thought to be cardio-protective and may help prevent a range of other illnesses. There are three types of essential fatty acids. Omega 3, omega 6 and omega 9. Omega 3 and omega 6 must be consumed while the body can produce some omega 9 on its own. Essential fatty acids are required for healthy cardiovascular, reproductive, immune, and nervous systems. You can find essential fatty acids in food like walnuts, pumpkin seeds, sesame seeds, avocados and oily fish.

6. Training and Nutrition

Proteins

A correct and adequate protein intake is important for anyone involved in training. Protein is essential for the growth and repair of skin, hair, nails, bones, tendons, ligaments and muscles. It also serves an important role in enzyme production and maintaining a strict acid balance. One gram of protein contains four calories.

The recommendation (by WHO, The World Health Organisation) for an average male and female adult is just 0.75 grams of protein per kilogram of bodyweight. If you weigh 70kg it means that you need 52.5 grams of protein per day or about two chicken breasts worth. Some research shows that competitive athletes, especially those who are involved in heavy weight training, may require more protein. The recommendation for athletes lifting heavy weights can be as much as 2 grams per kilogram.

Good sources of protein are low fat milk, poultry, fish, lean red meat, eggs, nuts, beans, lentils and soy products. Fatty meat like pork and fast food hamburgers as well as most cheeses contain a lot of saturated fats so are not as suitable sources of protein.

Nutrition

Food and Digestion



Before you start with your training, it's good to drink some water and perhaps to eat a piece of fruit. It is good to eat fruits and also vegetables before your training, because it gives you an energy boost that you'll need in your work-out.

Your digestive system is very slow, and it takes around an hour for you to digest your food properly. You should start training around one and a half hour after you eat.

Water

Water is very important for your health and your well-being. Water speeds up your metabolism.

Why?

Because water hydrates your cells so they can function properly. Water makes your cells expand in volume. Increased cellular volume leads to an increase in fat burning.

So, if your cells are hydrated for example when you train, then your body can get more from the exercise than if your cells were dehydrated.

Vitamins and Minerals

As well as consuming all other vitamins and minerals, it's especially good to take a piece of citrus fruit from time to time. Citrus is the kind of fruit that contains the most vitamin C. Vitamin C is one of the safest and most effective nutrients. It is also very good for your skin, to heal and get rid of scars!

Also, proteins are something that you should be eating a lot of when you're training. Proteins help to build and repair cells. In other words, it makes you mostly gain muscles. Calcium and phosphor are good for the skeleton, so I also recommend them.

And of course!

Eat vegetables!



6. Training and Nutrition

Good nutrition

Good nutrition is :

- Eating seasonal and organic food because they contain little or no pesticide.
- Eating food that is less processed and refined, because processed food is usually full of hidden sugar, fat and salt.
- Having a varied diet will ensure that we have all the nutrients needed for a good health, vitamins, minerals, fibres ...
- Focusing on fruit and vegetables, white meat, fish, whole grains and vegetables...
- Learning how to use sprouts, lacto-fermentations, whole grains which are less known such as spelt and buckwheat, vegetables such as aquatic algae.
- Discovering and using different herbs and spices because they contribute to your well-being, for example parsley is recognized as being full of vitamins, dill helps digestion and mint energizes...
- Reducing consumption of coffee, alcohol and sugar, to protect our nervous system.
- Avoiding food containing artificial colours or preservatives, artificial flavours, because it is recognized that these additives have negative effects on our health.
- And above all – enjoy eating !!!



How to eat before training

Exercising on a full stomach or eating too much before training is not very good. Because your stomach can be upset, and then you can feel dizzy. Your stomach can also cramp. So it is better if you eat a bit of little things like: pasta, fruit, bread, energy bars or drinks. It is much better for you and your stomach to eat healthy things, instead of sweets.

Eat a healthy breakfast

In the morning it is good to wake up early, because then you can eat your breakfast. To make sure that you have enough energy when you exercise, it is good to eat 1 to 4 hours before you train. It also depends on what you have eaten, and how much. This is different for each person. For example, some are ready to run one hour after a meal, or it can take more time. So you should try and experiment with this. For example: how long it takes for your stomach to use the food as energy.



Example for a healthy breakfast :

- Juice
- Bananas (fruit)
- Whole-grain cereals and bread
- Low-fat milk

6. Training and Nutrition

If you don't eat enough, you will not feel strong throughout your working day. And if you don't eat breakfast at all in the morning, you will probably feel sluggish or lightheaded. Carbohydrates are very good to eat to get a maximum of energy.

How much you eat before exercising:

Small snacks: You eat one hour before exercising.

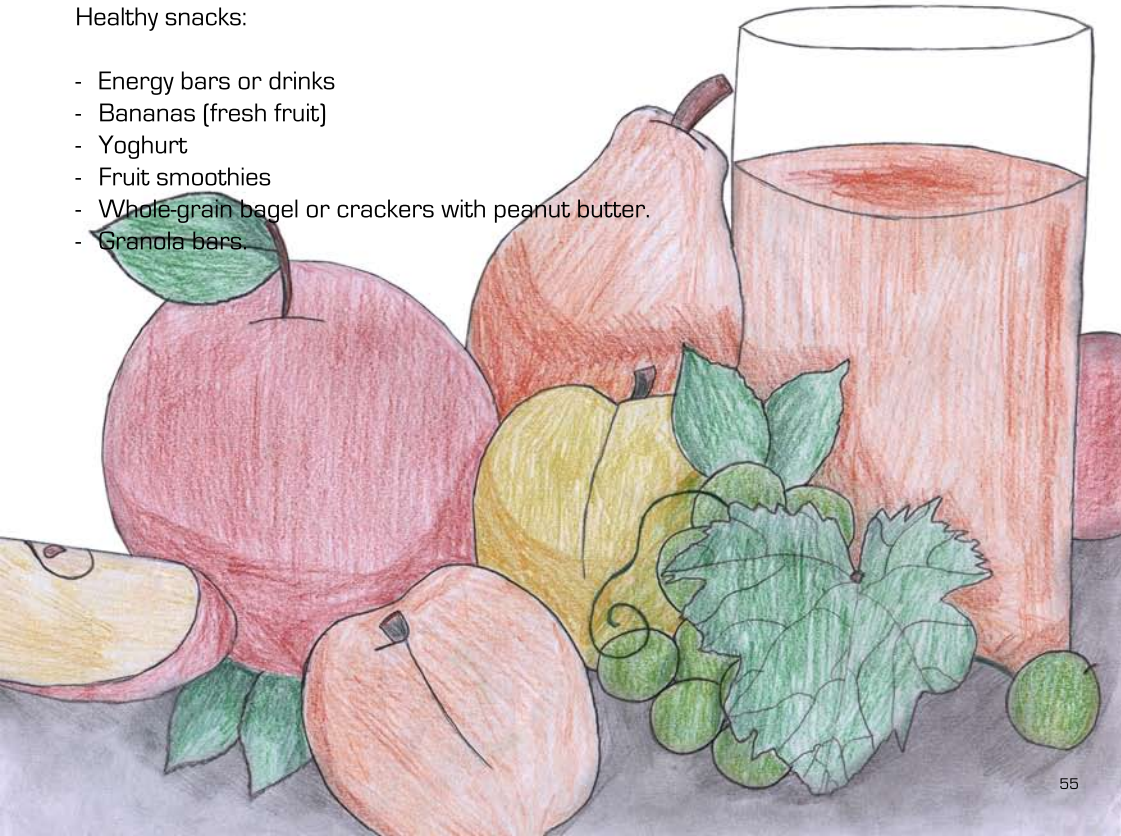
Small meals: Two to three hours before exercising.

Large meals: You eat at last three to four hours before exercising.

Some people can eat small snacks right before exercising. Do what works best for you. The most important thing is how you feel. But if you eat snacks before you work out, it probably won't give you the whole energy. But it keeps up your blood sugar and prevents distracting hunger pangs.

Healthy snacks:

- Energy bars or drinks
- Bananas (fresh fruit)
- Yoghurt
- Fruit smoothies
- Whole-grain bagel or crackers with peanut butter.
- Granola bars.



The importance of having a healthy life

Sleep

Sleeping is important because you have to restore energy to your body, and also for your health and immune system.

Healthy food

You need healthy food, to balance your calories for the day. If you eat chips (fast food) you can't eat anything else for the day because it has a lot of calories in them and you won't get all the necessary vitamins. If your mood for the day is stabilised, it is easier to concentrate. Skip this feeling "eating all time" !

If you don't eat healthy food your blood sugar goes up and down and you lose concentration and you lose energy. If you eat healthy food you easily keep your normal weight and don't get fat.

Vitamins and minerals



6. Training and Nutrition

Vitamins

- +A > to see in the dark, normal skin - A > bad vision in the dark, bad skin
- +B > important for enzymes - B > malformed red corpuscles
- +C > important for the building of many substances in the cells
- C > your teeth may fall off
- +D > controls calcium, phosphor, - D > your bones become fragile
- +E > helping forming red corpuscles - E > bad immune system
- +K > helps the blood to clot

Minerals

Iron - To make the red colour in the blood. If you don't get iron, you can't make the red colour and you can't transport oxygen. If you don't get iron you can die.

Calcium – To build and maintain the skeleton. You need vitamin D, phosphor and Calcium to build the skeleton.

Zinc – Important for the healthy growth and development of the body during childhood and adolescence.



7. Some good advice

Careful, Please ! Too Much salt !



Salt is a vital mineral for the healthy functioning of the human body. Sodium is required for your body to be able to regulate the amount of water in the body and for muscles to work properly.

It is important that salt is a part of your daily intake, but too much salt can be hazardous to your health. A diet consisting of more than the recommended 6 grams per day, which is around a teaspoon, may lead to hyponatremia and an imbalance between salt and water in your body in the short term and high blood pressure, heart disease, stroke and osteoporosis in the long term.

Hyponatremia is the medical term for a high level of sodium in the blood. This can occur if you are not drinking enough water or losing excessive amount of water from exercising in extreme heat, prolonged diarrhea or vomiting.

Clothes And Training

It's important that your clothes are comfortable when you train, even if the price is higher. The quality is often worth it.

If you are training outside, always check the temperature and dress according to it. Choose the right clothing for your sport. If you don't want to spend too much money on clothes for every single one of your sports, compromise and maybe wear the same clothes for example while running and in gym class. If you decide to go for some kind of shirt with sleeves, don't wear anything too tight or too loose.

For women, tank tops are the most practical ones. It's important to be able to move freely in your clothes while working out. Women also shouldn't forget to wear a sports bra, for proper support and comfort.

For pants, pick the right size and try them on before you buy them to see if they fit. Make sure they're not too long, to avoid injury by tripping. Don't work out in jeans and try to wear something that's made for sports, at least with pants because regular pants can be torn and aren't very practical to work out in.



Shoes are the most important thing if you do sport. Be picky with your choice of trainers and if you're not sure ask someone who works at the store for their advice. Don't forget to mention what sport you need the shoes for. Choose thin socks over thick ones. A lot of shoes can be used for many different sports, but football shoes should only be used on the football pitch.

But most important, don't wear regular shoes while exercising.

Take off all your jewellery before a workout and if you have longer hair, wear your hair up. That way you can easily avoid heavy sweating and getting distracted by the hair in your eyes.

7. Some good advice





Example of a week of training



COMENIUS 2011-2013



TRAINING DIARY

COUNTRY : SWEDEN

SCHOOL : TUNASKOLAN

NAME : NILSON

FIRST NAME : Peter

AGE : 14 years

FAVOURITE SPORTS : Sailing

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
20.04.2013	Jogging	5 km/30 minutes	I was tired
21.04.2013	A day off		
22.04.2013	Sailing	90 minutes	It was windy. I liked it.
23.04.2013	Walking on the beach	30 minutes	Beautiful weather and good tempo.
24.04.2013	Cycling	30 minutes	Very tiring because of the hills in Brittany.
25.04.2013	A day off		
26.04.2013	Sailing	60 minutes	It was very windy. I had pain in my arms
TOTAL		4 hours of sport	

OBSERVATIONS ABOUT YOUR HEALTH :

Perhaps I have to sleep more because I was quite tired this week.





Training diary model

(for about 2 months)

COUNTRY : _____ SCHOOL : _____

NAME : _____ FIRST NAME : _____

AGE : _____

FAVOURITE SPORTS : _____

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

DATES	ACTIVITIES	DISTANCE/TIME	COMMENTS
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

OBSERVATIONS ABOUT YOUR HEALTH :

References :

<http://www.niv.gov/researchmatters/2009/12072009activity.htm>
<http://www.livestrong.com/article/543538-does-exercise-affect-intelligence/>
<http://www.well.blogs.nytimes.com/2010/09/15/phys-ed-can-exercise-make-kids-smarter/>
<http://www.fitness-for-fun.net/images/stretching.jpg>
<http://www.images.athleteline.com/photogallery.entrainement%2020.jpg>
<http://www.madeinfoot.com/img/photos.ligue-1/2012/zoom/groupe-02-01-2012'entrainement-paris-saint-germain-complexe-sportif-aspire-doha-quatar-20120102144312-9705.jpg>
<http://www.decisivemagazine.com/true-heart-healthy-eating>
<http://www.simple.wikipedia.org/wiki/>
<http://www.organicgardeningguru.com/>
<http://www.dn.se/insidan-hem/traning-ger-smarta-barn>
<http://www.umo.se/nyheter/traning-gor-en-smartare/>
<http://www.expressen.se/halsa/fem-enkla-satt-att-bli-mer-intelligent/>
<http://www.nyfikenvital.org/?q=node/2791>
<http://www.forskning.se>
<http://www.1177.se>
<http://www.vardguiden.sehttp://www.friskisparis.com/>
<http://www.terrafemina.com/vie-privee/bien-etre/videos/1118-jympa-savez-vous-bouger-suedois-.html>

Fitness för henne, Linda Ekwall, Fitnessförlaget AB, Sweden 2002

Friskis & Sveltis, motionsbok, Lena och Johan Holmsäter, Ingemar Johannesson, Annika Gärderud, Prisma, Stockholm, 1987

Rörelsebanken, Lena och Johan Holmsäter, Prisma, Stockholm, Sweden 1987,

Le stretching du sportif , Sven-A. Sölveborn, Editions Chiron, Paris, France, 1983

Stretching, Anatomie et mouvement A.G. Nelson & J. Kokkonen, Vigot, France

Stretching, No Stress, Marabout[Hachette Livre],France, Estella Grafics, Spain, 2008

Stretching by Bob Anderson, Shelter Publications, Bolinas, California, USA, 1980

Textbook of Work Physiology, Per-Olof Astrand & Kaare Rodahl, McGraw-Hill Book Company,USA, 1970

Träna 6 minuter på morgonen, Faye Rowe & Sara Rose, Parragon, Uk, Gyllene snittet AB, Sweden

Good advice from Kerstin Andersén during twenty years at Gerdahallen, Lund, Sweden

8. Conclusion

“You don't have a body, you are a body.”

Torbjörn Stockfelt

Docteur en philosophie
à l'Institution de pédagogie du sport
à l'Université de Stockholm - 1984

Thanks to all of you !



