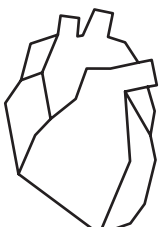


# HEALTHY HEART HANDBOOK

*#Yourheartforlife*



# Your heart for life

The handbook you are looking at was created as part of the **Your heart for life** campaign. It teaches people how to take proper care of their heart. Because not everybody knows how to prevent cardiovascular diseases, how to recognize a heart attack or a stroke, or what to do if they witness someone suffering any of these illnesses.



Did you know,  
that the heart works  
24 hours, 7 days a  
week, 365 days a  
year?

## About Loono

At Loono, we demonstrate the importance of prevention. We organize educational workshops and lectures, write articles, and record videos. We don't use scary statistics to get our point across, and we inspire others to take care of themselves in time and in a fun way.

We are a team of young doctors, medical students, and other enthusiasts. We educate in the field of prevention of cardiovascular and oncological diseases and productive health.

Alongside with that we help young patients and their families.



# Loono in numbers

**5**  
years of  
existence

**55 000+**  
trained  
individuals

**5** cities -  
Prague, Brno,  
Pilsen, Hradec  
Králové,  
Olomouc

**1000+**  
workshops

**150**  
team  
members

**47**

Dear Katerina, I have shown my dad your video about heart, as he has recently felt pressure on his chest when physically active and I didn't want him to underestimate it. It took some time, but I finally persuaded him to visit a doctor. He will need to have an operation (bypass) as there is some coarctation, but the doctor said it's better to do it now, than to get a heart attack later. I just wanted to say thank you. I believe you and your colleagues will help many more people. Best regards, Tomas.



iMessage

Thanks to our activities, 47 people have already detected serious illnesses in time.

*Under the auspices*



**1. LÉKAŘSKÁ  
FAKULTA**  
Univerzita Karlova

*With the support of*



Společnost všeobecného  
lékařství ČLS JEP

## Our story

Our founder Kateřina Vacková was diagnosed with a malign ovarian cancer at the age of 22. Thanks to the fact she listened to the warning signals of her body, everything was detected in the early stage. As she has cured, Kateřina has decided to inspire other young people by her story. And so Loono was founded - to help people realize that the right time to take care of their health is now.

*Kateřina*



MINISTERSTVO ZDRAVOTNICTVÍ  
ČESKÉ REPUBLIKY

# Cardiovascular system

The cardiovascular system consists of the heart and blood-vessels. Its job is to supply the whole body with oxygen and nutrients.

Did you know, that together, the blood vessels would measure **96 000 km**, which is more than twice around the Earth equator?



## What diseases can the cardiovascular system suffer?

Atherosclerosis, i.e. hardening of the arteries

Heart attack\*

Stroke\*

Heart rhythm disorders, i. e. arrhythmia

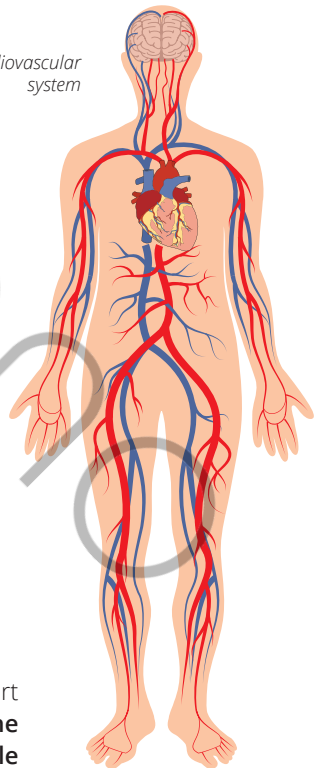
Valve defects

Tumor or inflammation of the heart tissue

Congenital heart diseases

Broken heart :-)

Cardiovascular system



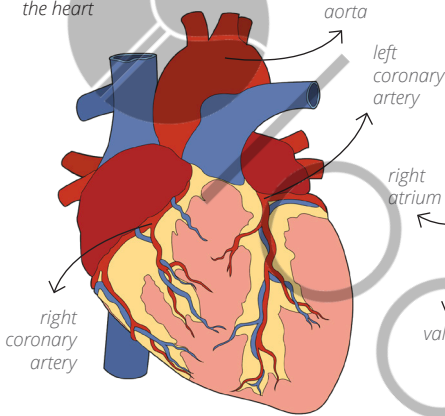
\* In this manual, we will mostly focus on a heart attack and a stroke. **Did you know, that in the Czech Republic, an average of 64 people suffer a heart attack every day?**

# Heart

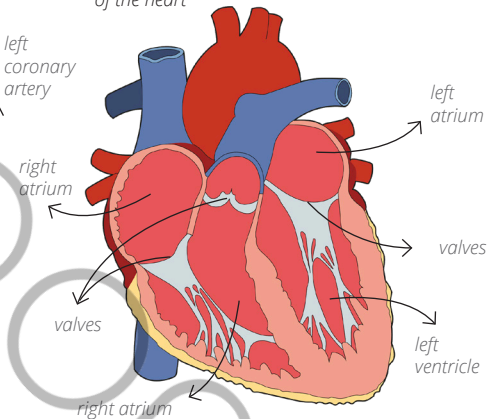
= *lcor* (Latin), *kardia* (Greek)

The heart is a muscular organ, usually located on the left side behind the sternum. Its job is to pump blood through the small circulatory system, i.e. into lungs, and through the big circulatory system, which is the rest of the body.

Front view of the heart



Sectional view of the heart



3 bil

the number of heartbeats in a lifetime

2+2

the number of chambers and ventricles

300

the weight of a heart in grams

3

the week in the development of a baby (in its mum's belly), when the heart starts beating

1967

the year when the first heart transplant was performed

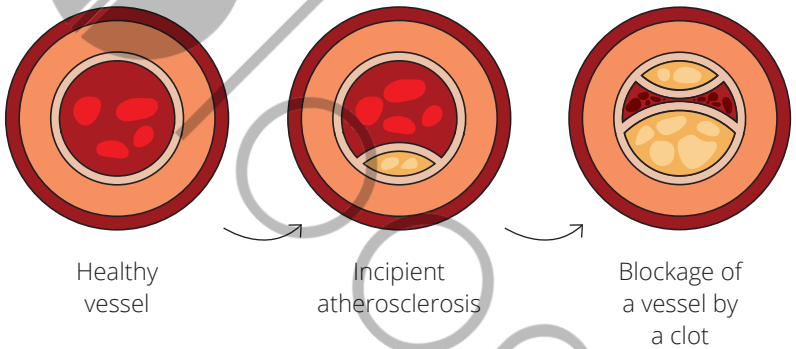
5

the average number of litres of blood the heart pumps every minute

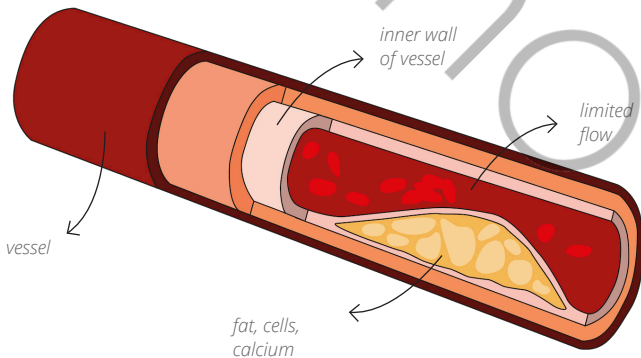
# Atherosclerosis

Atherosclerosis, i. e. hardening of the arteries, is a process where **fats, calcium and other cells** accumulate inside of the arteries. Atherosclerotic plaques gradually grow and narrow the vessels. If the plaque bursts, a blood clot is created, which can block the vessel completely. This condition then leads to a heart attack or a stroke.

## Phases of atherosclerosis



*A vessel with atherosclerosis*



# Heart Attack

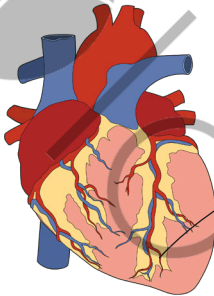
= Myocardial infarction

Heart Attack occurs when blood flow decreases or stops to a part of the heart, which can lead to an irreversible damage to the heart cells. The heart subsequently does not work properly and it is not able to pump blood in the body as it should.

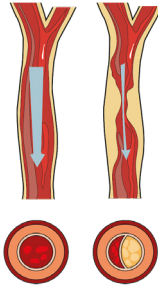
Up to 20 % of heart attacks can happen without any chest pain, which is usually the case with people suffering diabetes.



Beginning of a heart attack



Healthy vessel and a vessel during the beginning of a heart attack



## What are the symptoms of a heart attack?



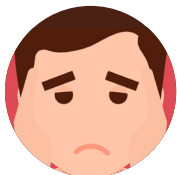
Chest pain\*



Shortness of breath



Paleness, sweating



Anxiety



Nausea



Fainting

\*Another symptom of the heart attack can be a long-lasting back pain.

Chest Pain and back pain usually start suddenly and last for at least 20 minutes.

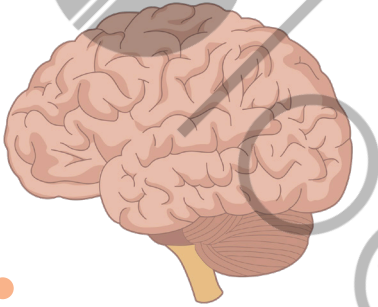
**Do not hesitate and call 155 (112)!**

# Brain

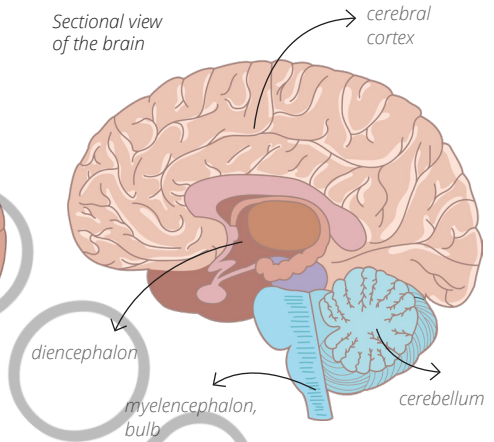
= *Cerebrum* (Latin), *encephalon* (Greek)

The brain is a nerve tissue, part of the central nervous system. Its function is the full body management and it is located in the cranial cavity, which is protecting the brain from an injury.

Left-side view  
of the brain



Sectional view  
of the brain



2

the number of hemispheres our brain is divided into

1350

weight of the brain in grams

432

the speed of a nerve impulse in km/h

20

amount of glucose in % used by the brain every day

86 bil

the number of brain cells in the brain

200

that is how many times would the nerve tissue run around the Earth if we connected all of it together




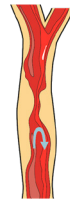
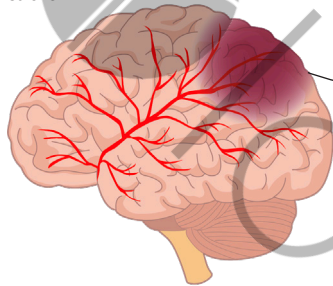
# Stroke

= iktus

A stroke is a medical condition in which the blood to the brain suddenly stops, which can result in harming the brain function and irreversible damage of the nerve cells.

Development of a stroke

A vessel during the development of a stroke



A stroke is an urgent matter, even if it is not painful. Therefore if you notice any of the above-mentioned symptoms on you or someone in your surroundings, do not hesitate and call 155 (112) immediately!

What are the symptoms of a stroke?

**BE FAST!**



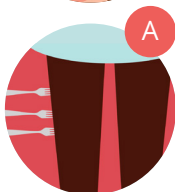
**Balance,**  
difficulty  
keeping  
balance



**Eyes**  
difficulty  
seeing



**Face**  
drooping to one side,  
tingling,  
paralysis



**Arms**  
weakness,  
tingle,  
numbness,  
paralysis



**Speech**  
difficulty  
speaking



**Time**  
Time!\*

\*Do not hesitate and call 155 (112) upon the first symptoms!

# What to do, if...

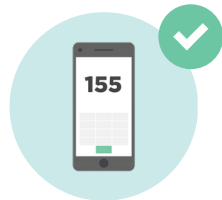
**5 important steps** to do if you notice the signs of a stroke or a heart attack on yourself or someone in your surroundings.



Do not panic



Do not search for advice on the internet



Call 155 (112)

1. Do not panic, do not search for advice on the internet, start acting!

2. Call 155 (112) for help!

3. Stay where you are and wait for the ambulance!

4. **Is the person conscious?**

- Calm them down!
- Keep checking their consciousness and breathing!
- Talk to them, if you do not get any reaction, shake their shoulders!

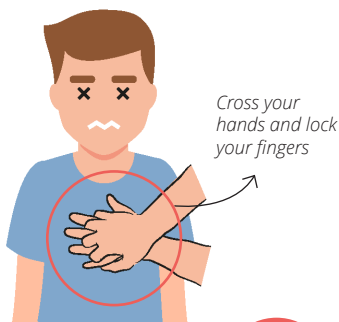
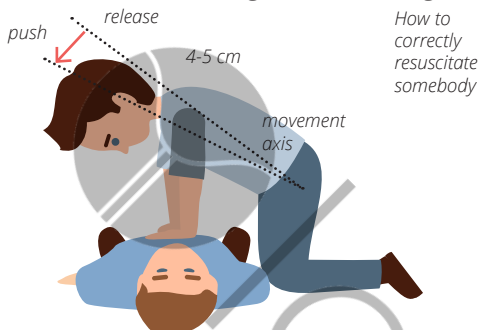
5. **Is the person unconscious?**

- Check their breathing - tilt their head back and listen for 10 seconds whether they are breathing, also watch their chest whether it is rising and falling!
- If there are no signs of breathing, start **resuscitation** immediately!



# First aid

Start cardiopulmonary resuscitation (CPR) if the person is unconscious and there are no signs of breathing.



## How to correctly resuscitate somebody?

**TIP**

**DOWNLOAD THE APP „ZÁCHRANKA“ (AMBULANCE)**

- It connects you with the ambulance over the phone
- It sends your location to the emergency service centre

1. Kneel beside the chest of the person who is laying down, be as close as possible.
2. Cross your arms and interlock your fingers.
3. Resuscitate in the 90° angle to the chest, keep your arms straight.
4. Position your hands in the middle of the chest, between the nipples. Press down on the chest about 2 inches (5cm), 100-120 times per minute, which is the rhythm of Stayin' alive by Bee Gees, or the Jingle Bells.
5. Keep resuscitating until the ambulance arrives, until you become exhausted, or until the affected person starts resisting.



QR codes



Android



iOS

# How to prevent a heart attack and a stroke?

## What we CAN AFFECT:



**Smoking** – If you do not smoke, the risk of a heart attack or a stroke is up to 50 % lower.



**Sleep** – Sleep at least 7 hours a day and follow a regular sleeping routine - go to bed and get up at the same time. Even during the weekend. :-)



**Exercise** – Stay active - at least 5 times a week for 30 minutes.



**Diabetes** – if you have diabetes, make sure to check it and visit the doctor regularly.



**Weight** – the fat that is stored mainly on the abdomen is dangerous. You can affect your weight with a healthy diet - enrich your diet with vegetables, whole grain products, fish and fruits.



**Blood pressure** – If you have high blood pressure, make sure to check it regularly and use the medicine prescribed by your doctor.

# How to prevent a heart attack and stroke?

What we **CAN NOT** affect, but we should know about:



Age



Gender



Genetics

**Gender** – Men are at greater risk, women are protected by female hormones (called estrogens) until menopause.

**Age** – The risk increases over 55.

**Genetics** – If someone in your family had a heart attack or a stroke before the age of 55, inform your GP about it. For instance, the familiar hypercholesterolemia is a hereditary disease, which can cause a heart attack at a young age.

*And therefore...*

- Listen to your body.
- Take proper care of it.
- Go for preventive check-ups.
  - You can save a human's life too.

*#Yourheartforlife*



# Preventive check-ups

What else can you do for your heart? Go for regular check-ups!



## General Practitioner

- A preventive check-up once every 2 years
- At the age of 19, transfer to a GP (for adults)

### Before the visit

Tests (Measurement of the amount of sugar and cholesterol in your blood) and urine

### During the visit

- Anamnesis
- Physical examination
- Blood pressure, BMI, vision, hearing, birthmarks
- Vaccination
- Age 50 - 55 - 1 FOBT (faecal occult blood test) per year
- From age 55 - 1 FOBT per 2 years or 1 coloscopy per 10 years

## Dentist

A preventive check up once a year

## Gynaecology

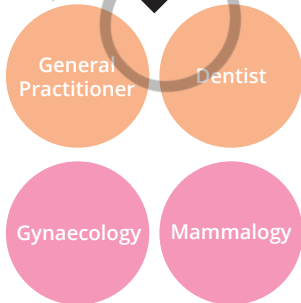
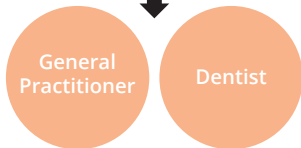
A preventive check up once a year

- A colposcopic examination - with the help of mirrors
- Cervical smear
- Ultrasound

## Mammalogy

Regardless of age

- < 40 year ultrasound
- > 40 let mammography
- > 45 years once every 2 years mammography paid by your health insurance



# Support us

To be able to train even more people in the field of prevention, we will need your help too.

- Support us at Darujme.cz



- Shop in our charity e-shop at shop.loono.cz



- Recommend our workshops to a company or a school through loono.cz/workshopy



Do you like our activities and would like to support us in a different way?

Contact our Katerina at [katerina.vackova@loono.cz](mailto:katerina.vackova@loono.cz)

# Follow us

Have you done anything good for your heart today? Post a picture or a comment with a hashtag **#Yourheartforlife** on your social sites. Maybe you will motivate someone else to take care of their heart!

Follow us on our social media **@loonocz** so as not to miss any of our events or news, and subscribe to our **newsletter** at **www.loono.cz**, which will remind you how to take care of your heart every month.



Have you heard about our campaign I touch them every month - **#boobsandballs**, which will teach you how to regularly examine breasts and testicles the right way, and thus enable you to detect potential cancer at an early stage?



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