Appendix

1. **Online Master@Heart Questionnaire**

The Master@heart questionnaire was developped using Redcap in Dutch. The questionnaire is accessible via: https://redcap.gbiomed.kuleuven.be/surveys/?s=FJX8DY74TA

The link is only available after completion of a registration on the website and using the registration code send to the athlete. This way of workings allows strict pseudonymisationRedcap makes use of several question options, for example an open field or dropdown menu with options available. Behind the question, in brackets, the used option is depicted and the options are displayed. Some questions are branched, which means they are only visible when another question is answered. If, for example, you never smoked, you will not see other questions involving past or present smoking behaviour.

The participants are asked to truthfully complete the questionnaire.

Questionnaire

1) Provide your registration code, make sure to use capitals when appropriate. (*Open field*, if the code corresponds to the database the next questions will appear)
2) I agree that the provided data can be used confidentially for scientific research. The data can only be used in the context of this study. The data will be coded so that they cannot directly be linked to your identity. (*Drop down*, Agree or not agree)
3) I agree to be contacted to participate in the research project, which includes several examinations for the heart. These include a coronary CT, a cardiac MR, if I get selected. This is voluntary and without any commitment. (*Drop down*, Agree or not agree)

Demography

4) Sex (*Drop down*, male or female)
5) Birthday (*Date field*)
6) Date of registration (*Date field*)
7) Highest education (*Drop down*, primary school; high school; university; I still go to school)
8) Do you work? (Yes or no)
    a. Do you work with fixed hours? (*Drop down*, Yes; No I work in shifts; No I work in shifts including night shifts; No I'm self-employed)
    b. How many hours do you work per week? (*Drop down*, 1;2;…,>42)
9) What is the name of your personal physician? (*Open field*)
10) What is your length in cm? (*Open field*)
11) What is your weight in kg? (*Open field*)
12) Do you smoke? (*Drop down*, I never smoked; I quit smoking; I still smoke)
    a. If you quitted smoking.
        i. How long ago did you stop smoking? (*Drop down*, less than 5 years; less than 10 years; more than 10 years; more than 20 years)
        ii. How long did you smoke? (*Drop down*, less than 1 year; less than 2 years; less than 3 years; less than 5years; less than 10 years; more than 10 years)
    b. If you still smoke
        i. How long do you smoke? (*Drop down*, less than 1 year; less than 2 years; less than 3 years; less than 5years; less than 10 years; more than 10 years)

13) Do you take medication for diabetes? (*Yes or no*)

14) How many alcoholic beverages do you drink per week? (*Drop down*, I drink no alcohol; 1; 2; 3; 4;…; >14)

Current sport activity

15) Do you, at this moment, participate in weakly sport activities? (*Yes or no*)

a. If yes, which sports do you do weekly? (*Multiple answers possible*)

i. Cycling
ii. Running (>1500m)
iii. Running (<1500m)
iv. Triathlon (If selected questions for swimming, running and cycling will be displayed)
v. Swimming
vi. Football
vii. Basketball
viii. Handball
ix. Golf
x. Chess
xi. Dancing
xii. Gymnastics
xiii. Omni sport
xiv. Rowing
xv. Darts
xvi. Weight lifting, powerlifting
xvii. Badminton

xviii. Tennis

xix. Duathlon (If selected questions for running and cycling will be displayed)

xx. Fighting sports

xxi. Other (specify this sport in an open field)

xxii. Volleyball

b. For every sport selected above the following questions will appear:

i. At which age did you start (selected sport)? (*Drop down*, 1; 2;…; 69)

ii. Did you ever stop (selected sport) longer than 3 years? (*Yes or no*)

iii. Do you participate in (selected sport) for over half a year? (*Yes or no*)

iv. At which level do you participate in (selected sport)? (*Drop down*, recreationally; recreational competition, competition regionally; competition nationally; competition international)

v. How many hours do you train for the (selected sport)? (*Drop down*, 1; 2;…; >30)

16) Do you perform strength training in a fitness centre? (*Yes or no*)

a. If yes, how many strength-training do you perform (*Drop down*)

i. 1 time per week

ii. 2 times per week

iii. 3 times per week

iv. 4 times per week

v. 5 times per week

vi. 6 times per week

vii. Daily

17) If you work, how do you go to work? (*Drop down*)

a. Public transport
b. Car
c. Bike
d. Running
e. Walking
f. Cycling or running with car or public transport
    i. If you cycle or run, how long do you run or cycle to work each week?

    (*Drop down*)

    1. <1hour
    2. >1hour
    3. >2hours
    4. >3hours
    5. >4hours
    6. >5hours
    7. >6hours
    8. >7hours
    9. >8hours
    10. >9hours
    11. >10hours

18) If you still go to school, how do you go to school? (*Drop down*)

a. Public transport
b. Car
c. Bike
d. Running
e. Walking

f. Cycling or running with car or public transport

i. How long do you run or cycle to school each week? (*Drop down*)

1. <1hour
2. >1hour
3. >2hours
4. >3hours
5. >4hours
6. >5hours
7. >6hours
8. >7hours
9. >8hours
10. >9hours
11. >10hours

Past sport activity

If you in the past followed an education, which included sport lessons as an important part of your education, please do not count this as sport in the past, unless this was sport for training purposes in a sport school.

19) Which sports did you perform in the past? (*Multiple answers possible*)

a. Cycling
b. Running (>1500m)
c. Running (<1500m)

d. Triathlon (If selected questions for swimming, running and cycling will be displayed)
e. Swimming
f. Football
g. Basketball
h. Handball
i. Golf
j. Chess
k. Dancing
l. Gymnastics
m. Omni sport
n. Rowing
o. Darts
p. Fitness
q. Weight lifting, powerlifting
r. Badminton
s. Tennis
t. Duathlon (If selected questions for running and cycling will be displayed)
u. Fighting sports
v. Other (specify this sport in an open field)
w. Volleyball
x. I never participated in sports
    i. For every sport selected above the following questions will appear:
        1. At which age did you start (selected sport)? (*Drop down*, 1; 2; 3;…; 70)

2. At which age did you stop (selected sport)? (*Drop down*, 1; 2; 3;…; 70)
3. At which level did you participate at this sport? (*Drop down*, recreationally; recreational competition, competition regionally; competition nationally; competition international)
4. How many hours did you train per week for (selected sport)? (*Drop down*, 1; 2; 3; …; 30)

ii. If fitness, how many times per week did you go to a fitness centre for strength training. (*Drop down*, 1; 2; 3; 4; 5; 6; 7)

Health questions

20) Have you ever been examined or treated for chest pain or breathlessness at rest? (*Yes or no*)
21) Have you ever been examined or treated for chest pain or breathlessness during exercises? (*Yes or no*)
22) Have you ever been examined or treated for palpitations or cardiac arrhythmias? (*Yes or no*)
    a. If yes, did this involve atrial fibrillation or atrial flutter? (*Yes or no*)
    b. Did you receive a pacemaker or defibrillator? (*Yes or no*)
23) Have you ever been examined or treated for dizziness during or after exercise? (*Yes or no*)
24) Have you ever fainted during or after exercise? (*Yes or no*)
25) Has a doctor ever mentioned you have a heart murmur? (*Yes or no*)
26) Has a doctor ever mentioned you have an elevated blood pressure? (*Yes or no*)
27) Do you take medication for an elevated blood pressure? (*Yes or No*)
28) Has a doctor ever mentioned you have high cholesterol levels? (*Yes or No*)

29) Do you take medication for high cholesterol levels? (*Yes or No*)

30) Are you known to have problems of the coronary arteries? (*Yes or No*)

31) Do you have other complains of the heart or blood vessels? (*Yes or no*)

    a. If yes, which? (Open field)

32) Do you take medication at this moment? (*Yes or no*)

    a. If yes, which? (Only mention the name; open field)

33) Have you even been diagnosed with asthma? (*Yes or no*)

34) Have you ever suffered from coughing, shortness of breath or breathing disorders during or after exercise? (*Yes or no*)

35) Do you use or have you used inhalation medication? (*Yes or no*)

36) Do you have any allergies (pollen, medication, food, insects)? (*Yes or no*)

    a. If yes, which? (*Open field*)

37) Other lung problems? (*Yes or no*)

    a. If yes, which? (*Open field*)

Family disorders

38) Has a stroke or myocardial infarction before the age of 65y occurred in a family member? (*Yes or no*)

39) Has sudden death before the age of 50y occurred in a family member? (*Yes or no*)

Participation in the study

40) In which testing centre would like to undergo testing? You can provide multiple answers. (*Drop down*, UZ Leuven; UZ Antwerpen; Jessa Hospital Hasselt)

41) Do you suffer from claustrophobia? (*Yes or no*)

2. Master@Heart Informed Consent

This informed consent was translated from Dutch to English.

PATIENT INFORMATION AND CONSENT FORM MASTER AT HLETE'S HEART STUDY (MASTER @ HEART)

Patient information and consent form : Non-athletes and endurance athlete performing at recreational / national / international level, age older than 45 years .

Date of this version : Version 3 (9-10 -2018)

Project Title : Endurance exercise and the risk of cardiovascular pathology in men. A comparison between lifelong and late-onset endurance training and a non-athletic lifestyle

Study group : Non-athletes and endurance athletes

Institution: KU Leuven

Principal Investigators: Prof. Dr. Rik Willems, Dr. Guido Claessen , Prof. Dr. Hein Heidbuchel , Dr. Lieven Herbots

Co-investigator (s): Mr. Christophe Dausin , Mrs. Jessica Ratajczak , Mrs. Daisy Thijs, Dr. Ruben De Bosscher, Dr. Mathias Claeys, Prof. Dr. Jan Bogaert, Prof. Dr. Steven Dymarkowski , Prof. Peter Hespel , Dr. Kaatje Goetschalckx , Prof. Dr. Andre La Gerche , Prof. Dr. Barati Shivalkar , Dr. Caroline Van De Heyning , Prof. Dr. Paul Dendale , Prof. Bert Op't Eijnde , Dr. Olivier Ghekiere

Contact details of the researchers

University Hospitals Leuven
Name : Prof. Dr. Rik Willems
Affiliate: UZ Leuven
E-mail: rik.willems@kuleuven.be
Tel .: +32 16 343 397
Address: Herestraat 49, 3000 Leuven

University Hospital Antwerp
Name : Prof. Dr. Hein Heidbuchel
Affiliation: UZ Antwerpen
E-mail: hein .heidbuchel @ uantwerpen.be
Tel .: +32 3 821 46 93
Address: Wilrijkstraat 10, 2650 Edegem

Jessa Hospital Hasselt
Name : Dr. Lieven Herbots
Affiliation : Jessa hospital Hasselt
E-mail: lieven.herbots@jessazh.be
Address: Stadsomvaart 11, 3500 Hasselt

This consent form is 11 pages long. Read all pages.

1. Your Consent

You are invited to participate in a research project.

This consent form contains detailed information about the research project. The intention is to explain to you as clearly as possible the purpose of the study and the investigations it will require. This way you can make a well-informed decision on whether you want to participate or not.

Please read this consent form carefully. Feel free to ask additional questions to the involved researchers. You may discuss your consent to participate in the project with a family member, friend or your GP.

If you decide to participate, you will be asked to sign at the bottom of this consent form. By signing this form you indicate that you have understood the information in this document and that you wish to participate in the research project.

You will receive a copy of this consent form.

2. Purpose and background

It is well known that endurance training has a positive effect on health and life expectancy. However, to date no studies have determined the optimal dose of endurance training . It is possible that exceeding of a certain exercise dose is accompanied by an increase in the risk of cardiac conditions such as arrhythmias.

The goal of this project is to compared the impact of lifelong exercise on the heart as compared exercise initiated later in life and a healthy lifestyle without exercise. A total of 600 volunteers will be asked to participate in this research project. The total study population will be divided into 3 groups according to the history of endurance sports (lifelong endurance sports versus late onset endurance sports versus no endurance sports). Specifically, we want to see if lifetime exerise is associated with a reduction in the risk of coronary artery disease and whether this is at the expense of a higher risk of arrhythmias and scarring of the heart muscle. We want to investigate whether starting endurance training at a later age has the same benefits as starting at a younger age. We hope to lay a scientific basis for training programs that stimulate endurance sports in Flanders.

If we can find out which underlying causes in the athlete lead to side effects of endurance sports, we could implement specific preventive and therapeutic measures in predetermined athletes. To support this project, a collaboration was set up with various national sports authorities (Sport Flanders, Royal Belgian Cycling Federation, Flemish Triathlon and Duathlon League and Association for Sports and Examination Physicians) in the form of an advisory board. The aim of this collaboration is to translate the research results of the project into guidelines for endurance training and the implementation of sound expensive sport to stimulate, in our society down .

This research is carried out by Belgian experts from different hospitals (UZ Leuven, UZ Antwerp and Jessa Hospital Hasselt) . In these different centers there is extensive experience in studying the athlete's heart. This research project is the most comprehensive to date tackling the benefits and potential detriments of endurance exercise. However, we realize that participation also requires an important commitment from you.

Below, we will explain how this study utilized imaging of the heart through X-ray, (coronary CT), ultrasound (echocardiography) and magnetic resonance imaging (MRI) . During a long planning phase, we weighed up the various elements of this research project with many experts. Although we realize that it takes a considerable effort on your part to participate, we believe it provides the best opportunity to answer the research questions.

3. Procedures

The investigations will require a full day of two half days of your time at baseline. Follow-up will require a short visit to the participating center. If you participate in this study, we will draw up the most appropriate plan with you. As a result, the order of the studies listed below may vary. An additional cardiac MRI will be performed for some of the participants . The selection of these participants is random.

History, clinical examination and electrocardiogram (30 minutes)

During this first visit you will be asked about your medical history and any health complaints . You will be asked to fill in a questionnaire regarding your sports activities. You will be weighed and clinically examined. Next, will be perform an electrocardiogram (an examination in which the heart rate is measured by means of a number of electrodes on the skin).

Blood samples for storage

First, an ordinary blood sampling will be done (+/- 30ml) where a small catheter is introduced on the inside of the arm. The latter will be used to administer contrast fluid during the coronary CT (and cardiac MRI, if this will be performed on you). For people who undergo a cycling test in the MRI, a second amount of blood (+/- 10 ml) will be taken before and immediately after the exercise via the same catheter. With blood sampling there is a small chance of local pain and a small bruise afterwards. The presence of the catheter is associated with minimal discomfort. At the end of the examinations (coronary CT and possibly cardiac MRI) the catheter is removed, which is also a quick and almost painless procedure. A patch is then applied to the insertion site, which can be removed the day after.

From the blood samples we will measure troponin (a substance that is released when the heart is damaged), and NT- proBNP (a substance that is released if the heart is overloaded). We also ask your permission to store small amounts of blood for further research regarding the link between coronary artery problems and certain substances associated with inflammation and the degree of heart muscle remodeling in relation to certain genetic characteristics. In particular, we want to investigate whether certain genetic variants are associated with the development of more extreme remodeling of the heart as a result of intensive endurance exercise and whether this is associated with beneficial or possibly adverse effects on performance and health in the long-term.

If you give your consent, we will draw a small amount (approximately 20 ml) of blood from which DNA and RNA will be isolated and which will be stored in a biobank for 30 years. The blood samples will be stored in encrypted form so that they cannot be traced back to you by third parties. The code that relates to the identity data of the DNA samples is managed by the Center for Human Genetics at UZ Leuven. They may be exchanged with other laboratories as part of a scientific collaboration, without commercial connotation, with the agreement of the ethics committee.

Research of the genetic material in the context of this biobank is intended to enable scientific research, but not to determine a genetic disorder or to determine the risk thereof. Normally, the results will therefore not be communicated to you. However, if the studies performed on your

biological material provide information that has a significant effect on your health condition, your treating physician will be advised and will discuss it with you. In addition, you will be offered genetic counseling and clinical follow-up for further follow-up. No decisions about eligibility for sports will be made solely on the basis of genetic testing. These findings will always be combined with the other test results.

All blood samples that are not used for the biobank , or for which no permission is given for storage in the biobank , will be destroyed after analysis. In principle, within 3 days. The stored genetic material will only be used in the above-mentioned context. Undefined research on collected samples will be defined in a new protocol and may only be started after approval of the Ethics Committee. You will not be contacted again for this.

If you withdraw your consent to participate in the study, you can have your sample(s) destroyed or requested back. Please contact the investigator for this. The results obtained from your sample(s) before you withdraw your consent to participate will remain the property of the client.

If you have any questions, please contact the coordinator of the biobank (UZ Leuven):
Prof. Dr. Nadine Ectors
UZ Leuven - Gasthuisberg Campus
gray, floor 0, Biobanking room
Herestraat 49, 3000 Leuven
Tel .: +32 16 345 485
e-mail: wbb@uzleuven.be

Cardiac MRI and blood test (60 minutes; with a limited number of participants)

As already mentioned, a cardiac MRI will only be performed on some of the participants. The selection of these persons is completely random.

The cardiac MRI will be performed on the Magnetic Resonance unit. MRI is a specialized examination that uses magnetic fields to obtain a very detailed image of your heart. This part of the examination does not require any radioscopy. Since large magnetic fields are used, it is essential that you do not have any implanted metal object (such as a pacemaker, defibrillator, prosthesis, artificial valve,…). Your researcher will verify by means of a questionnaire that none of these contraindications exist and that you can undergo the MRI examination without risk. MRI is a very safe study. For the scan you will be placed in a fairly narrow bore, which is initially a bit frightening for some patients but you will get used to this quickly.

A small dose of contrast (Gadolinium) will also be administered during this examination. This substance has special magnetic properties that allow it to clearly distinguish between the heart and the heart tissues, and to indicate even small areas of scar tissue . Side effects are also very rare. Sometimes the administration leads to mild headaches or nausea, which usually clears up quickly.

The MRI we use in this study is specially equipped with a supine bicycle. After the imaging, you will be asked to exercise on this bicycle at rest. This will feel strange because of the reclining position, but otherwise this is no different from normal exercise. First you will be asked to cycle at a comfortable pace for 2 minutes. You will then be asked to cycle for 2 minutes at a heavier resistance and finally 2 minutes at near maximum intensity. You will receive precise instructions for this during the examinations.

Coronary CT (30 minutes)

A coronary CT will be performed on all participants. In the CT examination room, you will lie on your back on the examination table as comfortably as possible. An IV will be placed in the vein of your arm to administer medication and contrast medium. Electrodes are placed on the chest to monitor the heart rhythm. In order to make a good CT scan, the heart rate must be relatively low, preferably below 65 beats per minute. If you still have a heart rate above 65 beats per minute in the initial phase of the CT examination, you will receive medication (beta blocker) through the IV into the vein of your arm. The coronary arteries must also be dilated. Therefore you will receive a single spray of nitrate underneath your tongue before the start of the examination. The medical team is located just outside the examination room during the recordings and can see and hear you perfectly. From time to time we will ask you to hold your breath.

These preparations for the examination are identical to the daily routine of the CT examination of the coronary arteries and are therefore not affected by the study.

In a CT examination, thin cross sections of the body part to be examined are made using X-rays, in this case the chest and heart. During the examination, you will slide through a 'ring' while lying down. The tube is large enough so that this is not a problem if you suffer from claustrophobia. A contrast medium is used to properly image the heart and the coronary arteries (CT angiography or CTA) .

Echocardiography at rest (40 minutes)

In this exam , an ultrasoudn probe will be placed on your chest (after applying a special gel). This allows images of the heart to be taken from different directions. This examination is completely painless and safe. You may have already experienced this in the past. You will be asked to turn to the left side and hold your breath occasionally.

DXA scan (10 minutes)

A DXA scan will be performed to find out more about your body composition (the amount of bone, fat and muscle in the body). For this examination you will be asked to lay your back on an examination table. During the examination, which takes about 7 minutes, a very low dose of X-rays will pass through the body. You will not notice any of this yourself.

Carotid artery ultrasound and measurement of arterial stiffness (30 minutes)

In this study an ultrasonic probe images takes imaged from the carotid artery where the blood vessel wall thickness can be measured as a measure of atherosclerosis. This technique is similar to the ultrasound of the heart and is completely painless. We will also estimate the stiffness of the vascular system by means of pulse wave analysis . In this test, three electrodes are placed on the skin and the distance is measured from the sternum to the cervical and thigh artery. The pulse wave velocity is then measured at the level of the carotid artery and the thigh artery with a special probe .

Maximum exercise test (30 minutes)

You will be asked to perform a maximum exercise test in order to measure maximal oxygen consumption by your body, as a measure of your fitness . This is can be done running on treadmill or by cycling of a bike (which can even be your own bike). The choice of the exercise test will depend on the endurance sport you practice. Gradually, the resistance of speed will be increased until you are no longer able to continue. During the exercise test you will take in a mouthpiece that can analyze the exhaled air and thus measure the oxygen consumption. At the start of the test a small puncture wound in your earlobe will allow us to collect a drop of blood

(2 to 5 µL) every 4 minutes during the test, on which we will measure lactate (~ lactic acid). This injection hardly hurts. This allows us to determine your exercise capacity. Your heart rhythm will also be continuously monitored during this test . At the end of the examination, you be able to cool down at your own pace. With the presence of a qualified cardiologist and all necessary equipment, the risk is minimal, and in any case many times smaller than with efforts (even less intense) in daily life.

Holter monitoring

After completing the studies, you will be asked to record the electrical activity of the heart for 24 hours using a (compact) portable device (Holter ECG). During that period , the equipment continuously records your heart rate. The records shows the course of your heart rhythm over 24 hours and allows us to visualize any irregularities in the heart rhythm. After 24 hours, you can simply remove the holter and send it back.

Follow-up and repetition of investigations

After completion of the examinations, your medical condition will be monitored for at least 1 year. You will be contacted by telephone every six months regarding your participation in sports activities and whether or not clinical problems occur. In addition, we will also ask you to create an online account on TrainingPeaks , a web page that allows you to upload training data obtained with your heart rate monitor. Your permission will be asked to allow us access to your training data. We emphasize that these training data are strictly confidential and not aimed at providing training advice. This close monitoring makes it possible to determine whether the degree of cardiac muscle remodeling in the context of endurance sports is associated with beneficial effects on health in the long term and whether some athletes may have an increased risk of developing arrhythmias.

To detect arrhythmias , you will be asked to wear a monitor that measures your heart rhythm for several days 1 year after the start of the study.

Research that has not yet been defined will be defined in a new protocol and may only be started after approval by the Ethics Committee.

Overview of the studies

	Procedure
Day 1	• Completing the questionnaire and clinical examination • Resting ECG • DXA scan • Echocardiography at rest • Duplex neck vessels and arterial stiffness measurement • Maximum cycling test with measurement of oxygen consumption and ECG registration • Blood taking • MRI of the heart at rest (only for a limited number of participants; optional: during exercise) • Coronary CT • Adhering to 24h holter monitor **END of** examinations day 1

Day 2	• Return the 24-hour holter monitor (or send it to us in consultation with the study director)
Clinical follow-up (1y)	• Telephone contact every six months to evaluate problems • Synchronization of training data in TrainingPeaks • Multi-day ECG registration 1 year after inclusion

4. Potential Benefits

We can't promise any direct personal benefit for you from this research. Still, some interesting findings may be made for you :

- If there are abnormalities in heart function or electrical function, it is likely that it can be picked up during these tests. The proposed studies in this study represent the most accurate evaluation of cardiac function currently available. If abnormalities are found during the investigation will assess with you and your GP the possible need for additional tests and follow-up.

- In addition, we hope that this research can allow a better understanding of the relationship between endurance sports and heart disease in some patients. Through better preventive and diagnostic tests, you can therefore help future athletes to diagnose and prevent health problems in a timely manner .

5. Possible risks

- Because of the effort: Vigorous effort carries a small risk of provoking an arrhythmia. Previous studies have shown that the risk of sudden death is about 1 to 2 cases per 100,000 athletes per year and at 1 per 1 to 4 million hours of exercise. On the other hand, the consequence of this is much lower in a controlled environment than if it were to occur in daily life. The risk of injury or death is extremely low under these circumstances. Should an arrhythmia occur, it can be treated immediately and will also lead to a change in policy. During all exercise tests is an experienced cardiologist will be present, who can immediately recognize and treat any problem.

- Coronary CT: In a CT of the heart and blood vessels, an iodinated contrast agent is administered through a vein, usually in the elbow crease. This serves to make the heart chambers, coronary arteries and / or abnormalities more visible. In most cases, the administration proceeds without problems. You may feel warm for a short time or feel slightly nauseous. In a small number of patients (less than 1%) an allergic reaction to the contrast medium occurs, which usually consists of sneezing or the appearance of red patches on the skin. In most cases, no further treatment is required for this. A serious allergic reaction is extremely rare (less than 1: 10,000 cases) . The employees of the radiology department in the various research centers know how to act in such a special situation. If you have had an allergic reaction during a previous examination with iodinated contrast agent, we request that you inform your cardiologist and / or radiologist in advance. The examination is carried out with as little X-rays and contrast medium as possible to obtain good quality images. The CTA exam usually requires 60 ml of contrast medium and the X-rays range between 0.5 and 1.5 m S v . By way of comparison: the annual natural background radiation in Belgium is 4 mSv per year.

- Magnetic Resonance Imaging (MRI) : There is a small risk of headache or nausea from the contrast medium . Allergic reactions have been described extremely rarely. Some people feel trapped in the MRI scanner. If this is really unbearable, you will of course be immediately taken out of the scanner.

- DXA scan. A DXA scan uses X-rays. However, the dose is extremely low and less than two days of exposure to natural background radiation.

- Echocardiografie : Ultrasound examination is a very safe examination . There are no risks associated with this research.

- There is a very small chance that the studies performed will reveal an abnormality of the heart that would otherwise have gone unnoticed and not necessarily caused any symptoms or danger. Such a finding can raise concern. Should such a finding nevertheless be made, we will inform you in detail about its importance. On the other hand, such a finding could be seen as a benefit, as it could lead to targeted treatment and follow-up, which could prevent symptoms in the future.

- Any investigation can involve unforeseen and unknown risks . Nevertheless, we believe that this is very unlikely given the extensive daily experience of all these studies.

6. Privacy, Confidentiality, and Information Disclosure

The confidentiality of this study is guaranteed like any other medical information. Any information obtained in connection with this research project that can identify you will be treated with the utmost confidentiality in accordance with EU Regulation 2 016/679 (General data protection) on the protection of natural persons with regard to the processing of personal data and on the free movement of that data and repealing Directive 95/46 / EC (General Data Protection Regulation) (= GDPR) . If research results are published, this will always be done in a blinded manner, whereby the identity of the individual test subjects cannot be traced.

A medical file will be created for you with the data that is stored about you. This file is only visible to the researchers who will conduct the studies from you. The research data from the various research centers will be stored in a central database in an encrypted form that cannot be traced back to third parties. The code table will be managed by the researcher who conducted the studies from you. You have the right to inspect the data that is stored about you, and to correct it if necessary.

Below you will find the contact details of the local administrators of the database and code table for the different centers:

University Hospitals Leuven

- Manager: Mr. Christophe Dausin
  Exercise Physiology Research Group
  Tervuursevest 143 - box 1505
  3001 Leuven
  Tel. +32 486 15 64 17
  e-mail: christophe.dausin@kuleuven.be

- Local data protection officer UZ Leuven: Griet Verhenneman (e-mail: gdpr.research@uzleuven.be)

University Hospital Antwerp

- Dr. Jessica Ratajczak

Study Coordinator / Lab Coordinator Cardiology
Cardiology, UZA
Wilrijkstraat 10
2650 Edegem
Tel. +32 3 821 40 74
e-mail: Jessica.Ratajczak@uantwerpen.be

- Local data protection officer UZ Antwerp: Filip Goyens (e-mail: DPO@uza.be)

Jessa Hospital Hasselt

- Dr. Daisy Thijs

Jessa Hospital Hasselt
City life 11
3500 Hasselt
e-mail: Daisy.Thijs@jessazh.be

- Local data protection officer Jessa Hospital: Luc Ceyssens (email: dpo@jessazh.be; Tel: 011/33 50 05)

If you wish to withdraw from the study no additional data will be collected and no additional data will be be transmitted to UZ Leuven.

You have the right to file a complaint about how your information is handled to the Belgian supervisory authority responsible for enforcing data protection law:

Data protection authority (GBA)
Drukpersstraat 35,
1000 Brussels
Tel. +32 2 274 48 00
e-mail: contact (at) apd-gba.be
Website: www.dataprotectionauthority.be

7. Insurance

In accordance with the Belgian law of 7 May 2004 concerning experiments on the human person, the sponsor is liable, even without errors, for all damage incurred by the participants and / or entitled parties that is directly or indirectly related to the study. The client of this study (UZ KULeuven) has taken out insurance that covers this liability. If you incur damage as a result of your participation in this study, this damage will therefore be compensated in accordance with the Belgian law of 7 May 2004.

Contact insurance company:
Vanbreda Risk & Benefits
Plantin and Moretuslei 297
2140 Antwerp - Belgium
Tel .: +32 3 217 67 67

8. New information that becomes known during the research project

During the research project, new information may become known regarding risks or benefits of the project to you. In this case we will certainly inform you. You have the right to stop your participation in this study at any time. The further policy will then proceed according to current medical practice.

9. Results of the research project

You will be informed of the general results of the research project. If relevant personal results are obtained, they will only be discussed with you and their impact on your further follow-up will be discussed.

10. Ethical committee

This study has been checked and approved by the Ethics Committee for research on subjects of the University Hospital Leuven.

If you would like further information or if you have any problems regarding the research project, you can contact the principal investigator, Prof. Dr. Contact Rik Willems or one of his employees.

11. Reimbursement of expenses

There are no costs for the participants in this study. The costs for all studies are borne by the study organizers.

You will be reimbursed or reimbursed during your stay in hospital on the days of the scheduled examinations.

12. Voluntary participation in the research project

Your participation in the research project is completely voluntary. You should not feel obliged to participate. Even if you wish to revise your consent in the course of the research, you have the freedom to withdraw from the research project. In that case, you will be asked to contact one of the employees or the principal investigator.

Thank you for reading this information brochure and for your willingness to consider participating in this study.

Consent form

Date : 26-09-2018 **Place : UZ Leuven**

Full title : Lifelong endurance sports for the prevention of coronary artery disease. A comparison with the late start of endurance sports training and a sedentary lifestyle.

I have read and understood the information brochure about this research project.
I voluntarily decide to participate in this project under the conditions as described in the information brochure . I will receive a copy of the information brochure and of this consent form. The researchers have promised never to publicly disclose my identity and personal information.

Name of participant (in capital letters) ……
……

Signature That um

I agree with a blood sample for genetic determinations that are known today or that will be developed in the future . The data about me are confidentially maintained . I can request that my DNA be removed from the analysis and destroyed at any time . The stored genetic material will only be used in the above-mentioned context.

☐ Yes ☐ No

Signature Date

Statement from the doctor

As a researcher, I gave an oral explanation of the research brochure and answered all additional questions from the participant .

Name researcher (in capital letters) ……
…… ……

Signature That um

Name of witness (in capital letters)
……

Signature Date