Appendix 4 Information for research participants and written consent

Background and Purpose Epidemiological studies show that regular physical activity reduces the risk of developing several types of cancer. Additionally, it has been suggested that physical activity can prevent tumor growth, as several studies show reduced risk of recurrence in physically active cancer patients. However, it is not clear how physical activity reduces the risk of developing cancer. One proposed mechanism is the impact of physical activity on the immune system. This study aims to investigate how physical activity affects T cells, a specific type of immune cell involved in fighting cancer cells.

Request for Participation You have voluntarily expressed interest in participating in our research study "The effect of high-intensity training on white blood cells, with a special focus on anti-tumor properties." We hereby invite you (see below) to participate in this project.

Study Procedure If you participate in the study, it will involve a visit to our laboratory. You will perform an exercise session consisting mainly of low-intensity cycling but also three 30-second sprints where you will cycle as fast as you can against resistance equivalent to 7.5% of your body weight. Despite the short duration of cycling, it is very physically demanding.

Before and after the exercise, and 60 minutes after the exercise, we will take a blood sample from your arm, totaling 100 ml of blood. The entire test protocol takes approximately 90 minutes.

You may be asked to participate on two additional occasions to perform the same protocol.

Exclusion Criteria You cannot participate in the study if any of the following criteria apply to you:

- Previous or current cardiovascular disease
- Previous heart issues during physical activity
- Cerebrovascular disease, including previous stroke or aneurysm
- Lung disease
- Metabolic diseases
- Endocrinological disease
- Diabetes
- Kidney disease or impaired kidney function
- Active inflammatory bowel disease
- Malignancy
- Pregnancy
- Smoker
- Taking medication that may affect the safety of the experiments (assessed by the medical officer)
- Very high activity level
- Very low activity level
- Recent steroid treatment (within 6 months)
- Hormone replacement therapy
- Any coagulation disorder
- Musculoskeletal or neurological diseases
- Other disease requiring long-term medication
- Participation in another research study

Insurance and Compensation Patient insurance applies. For participating in the study, a fee of 250 kronor is paid, which is tax-free. If you wish to participate in additional sessions with the same setup, 250 kronor per session will be paid.

Practical Information The tests will be conducted at Karolinska Institutet, Department of Laboratory Medicine, Division of Clinical Physiology. Information about the study's results will be shared with participants after the experiments are completed. Exercise clothes and shoes are preferred, showers are available on site.

Handling of Data and Confidentiality Your personal data will be replaced within the study by a specific code. Only responsible researchers have access to the so-called code key that can be used to identify you. The code key is stored separately from your personal data and other data. The information we intend to collect and process includes your name, age, birth date, address, and training history. In addition, data will be collected as described above. You will also fill out a health declaration. The Karolinska Institutet, Department of Laboratory Medicine, Division of Clinical Physiology is responsible for the processing of your personal data.

Your responses and results will be treated so that unauthorized persons cannot access them. Karolinska Institutet is responsible for your personal data. According to the EU Data Protection Regulation, you have the right to access the information about you that is handled in the study for free, and if necessary, to have any errors corrected. You can also request that your information be deleted and that the processing of your personal data be restricted. If you wish to access the information, please contact Helene Rundqvist (contact details are provided later in the document). The Data Protection Officer can be reached at dataskyddsombud@ki.se. If you are dissatisfied with how your personal data is handled, you have the right to file a complaint with the Data Protection Authority, which is the supervisory authority. The results of the study are presented only at the group level or as completely anonymized data points. Therefore, individual research participants cannot be identified.

Risks The medical risks associated with interval training and testing are minimal or negligible. It is common to experience transient cramp-like pain in the thighs after cycling. Temporary nausea may occur after cycling. Venipuncture is a routine procedure with almost no risk of long-term harm and complications. There is a slight risk of hematoma (bruise) at the site of the needle stick. We only recruit healthy research participants. Your health declaration will be assessed by the medical officer before potential participation in the study.

Benefits You will receive information about your blood value (hemoglobin) after the experiment is completed.

Voluntariness Participation in the study is entirely voluntary, and you can withdraw from the study at any time without having to provide a reason.

Project Leaders The main body responsible for the research study is Karolinska Institutet. The authorized representative is Head of Department Matti Sällberg. Address: Karolinska Institutet, Division of Clinical Microbiology, F68. Karolinska University Hospital, Huddinge, 141 86 Stockholm.

If problems arise or if you have any questions, contact the responsible researcher:

Helene Rundqvist Email: Helene.Rundqvist@ki.se

Karolinska Institutet Department of Laboratory Medicine, Division of Clinical Physiology
Karolinska University Hospital, Huddinge

Consent I, the undersigned, have taken part in the above information and the information provided orally by the responsible researcher. I have been given the opportunity to ask questions about the experiments, and I am aware that I can withdraw from the experiments and my continued participation in the study at any time without having to provide a reason.

I agree to participate in the study and consent to my personal data and other data about me being processed in accordance with the information I have received.

_____(mark with X if you agree to participate)

Stockholm (date and year) ……

…….... Signature of research participant

…….. Printed name