Informed Consent Form

Subject Initials _____

Enrollment Code _____

You are invited to participate in the research study titled "Investigation and Classification of Treatable Traits in Patients with Chronic Airway Diseases." Please read this informed consent form carefully and make a considered decision about whether or not to participate in this study. Your participation in this research is entirely voluntary. As a subject, you must provide your written consent before joining the clinical study. When your research doctor or study staff discusses this consent form with you, you can ask him/her to explain anything you do not understand. We encourage you to discuss your decision thoroughly with your family and friends before deciding to participate. You have the right to refuse to participate in this study and may withdraw at any time without penalty or loss of benefits to which you are otherwise entitled. If you are currently participating in another study, please inform your research doctor or study staff. The background, purpose, procedures, and other important information for this study are provided below:

一、 Study Background

Chronic Obstructive Pulmonary Disease (COPD) and bronchial asthma (asthma) are common chronic airway diseases that severely impact public health. Globally, approximately 600 million people are affected. In 2015, about 3.2 million people died from COPD worldwide, and 400,000 died from asthma. In China, chronic airway diseases represented by COPD and asthma have become major chronic conditions seriously endangering the health of the population. Results from the China Pulmonary Health (CPH) study, led by our team, indicate that the prevalence of COPD among people aged 20 and above in China is 8.6%, and the prevalence of asthma is 4.2%. Chronic airway diseases impose a substantial healthcare burden. However, despite continuously rising medical costs for these diseases, key clinical outcomes have not shown corresponding improvement. Personalized treatment tailored to different patient subtypes is crucial to addressing this dilemma. It has been established that chronic airway diseases exhibit significant heterogeneity. Different phenotypes exist among asthma patients, such as allergic asthma, late-onset asthma, smoking-related asthma, and obesity-related asthma. Similarly, COPD patients present with various phenotypes including mild stable, emphysematous type, intermediate type, multiple comorbidities, and multifactorial inflammatory type. Applying traditional, uniform

treatment regimens to different phenotypic patients falls short of meeting the actual needs of disease treatment and management. In clinical practice, there is a need to identify more precise treatable traits for patient classification and personalized management. Several treatable traits beneficial for the individualized management of patients with chronic airway diseases have already been identified, for example, blood eosinophil count and serum allergen-specific IgE, which have demonstrated clinical utility. There is a pressing need to discover and validate more clinically significant traits to provide a basis for the subsequent implementation of personalized patient management.

二、Study Purpose

The purpose of this study is to investigate the distribution of dyspnea perception within established chronic airway disease cohorts from community screenings and hospital-based populations, identify novel subtypes classified by dyspnea perception, analyze their relationships with known biomarkers and other treatable traits, and explore new treatable traits contributing to refractory chronic airway diseases. The findings will provide a foundation for subsequent implementation of personalized management strategies for patients.

三、Study Procedures

1. How many people will participate in this study?

Approximately 950 people will participate in this study and may be invited to participate in subsequent follow-ups.

2. Study Procedures

If you agree to participate in this study, please sign this informed consent form.

Before you can enroll in the study, the doctor will inquire about and record your medical history and perform screening tests including pulmonary function tests, chest imaging, dyspnea perception assessment, and head MRI.

Once it is confirmed that you can participate, you will enter the baseline visit phase.

During the baseline visit, the doctor will ask you about basic information, smoking history, occupation, medical history, respiratory symptoms, treatment information, etc. The doctor will administer questionnaires to you regarding your disease condition and quality of daily life. You will undergo pulmonary function tests (including spirometry, lung volume measurement, diffusing capacity test), fractional exhaled nitric oxide (FeNO) measurement, chest CT scan, dyspnea perception assessment, head MRI, and approximately 10 ml of blood will be drawn from a superficial vein using a syringe.

You may receive a phone call inviting you to participate in follow-up visits as part of this study. Follow-ups are also part of routine clinical care. If you are invited to subsequent visits, this study lasts for 3 years. After the baseline visit, you will need to come to the hospital for one follow-up visit per year so we can better understand your condition.

This study lasts for 3 years. Your treatment regimen will be determined by your doctor; no investigational drugs will be provided.

3. How long will this study last?

This study lasts for 3 years. After the baseline visit, you will need to come to the hospital for one follow-up visit per year so we can better understand your condition.

You may choose to withdraw from the study at any time without losing any benefits to which you are otherwise entitled. However, if you decide to withdraw during the study, we encourage you to discuss it with your doctor first. If you experience a serious adverse event, or if your research doctor believes that continued participation is not in your best interest, he/she will decide to withdraw you from the study. The sponsor or regulatory authorities may also terminate the study during its course. Your withdrawal will not affect your normal medical treatment and rights.

If you withdraw from the study for any reason, you may be asked about your participation. If the doctor deems it necessary, you may also be asked to undergo laboratory tests and physical examinations.

4. Information and Biospecimens Collected in the Study

Blood samples will be collected during the study for testing. They will be transported to and stored in the laboratory of the Beijing Institute of Respiratory Diseases for biomarker testing. The blood samples may be tested again in the future for inflammatory mediators, proteomics, genetic testing, etc. Your research information will be entered into an electronic data platform protected by passwords; only authorized doctors can access your information. The questionnaires you complete and other related diagnostic and treatment information will be stored securely to ensure your information is not leaked. The research doctor will use your research data for medical research purposes only.

四、Risks and Benefits

1. What are the risks of participating in this study?

This is an observational study. During the study, you may experience some, all, or none of these adverse events, risks, discomforts, or inconveniences. For example, venipuncture for blood collection may cause discomfort and carry a risk of infection; we will strive to avoid infection during the procedure and advise you on how to prevent it further. During the functional head MRI, some individuals might experience nervousness or discomfort; a doctor will accompany you during the examination, and

if you really cannot tolerate it, the examination can be stopped at any time. The resistive breathing load test might cause dyspnea that is difficult to tolerate or fatigue; you can perform the test according to your physical ability, and a doctor will also accompany you to assess the safety of the test. There may be risks related to information security. We will make every effort to protect the information you provide from disclosure. Some questions we ask you in this study might make you feel uncomfortable; you can refuse to answer such questions. You may withdraw from this study at any time.

During the study, you will need to come to the hospital on time for follow-up visits and tests, which will take up some of your time and may cause you trouble or inconvenience.

2. What are the benefits of participating in the study?

Direct Benefits: If you agree to participate, you may receive direct medical benefits. Both you and your doctor can gain a better understanding of your condition, and you will receive help from the research doctor to better manage your disease.

Potential Benefits: We will continuously monitor changes in your condition, which may help slow the progression of your disease. We hope that the information obtained from your participation will benefit you or other patients with the same condition in the future.

五、Alternative Treatment Options

This is an observational study. There are no alternative treatment options provided by the study.

六、Use of Research Results and Confidentiality of Personal Information

With your understanding and assistance, and that of other subjects, the results of this project may be published in medical journals, but we will keep your research records confidential as required by law. The personal information of research subjects will be kept strictly confidential and will not be disclosed unless required by relevant laws. When necessary, government management departments, the Hospital Ethics Committee, and other relevant research personnel may access your data according to regulations.

七、Research-Related Costs and Compensation

1. Drugs/Devices and Related Test Costs for the Study

This study collects data, partly derived from necessary examinations during your

clinical care; the costs for these will not be compensated. Other examination costs not provided by routine clinical care, such as dyspnea perception tests, will be covered by this study. Costs for routine treatment and examinations required for other diseases you may have concurrently are not covered.

八、Subject Rights and Relevant Precautions

1. Your Rights

Your participation throughout the study is voluntary. If you decide not to participate, it will not affect other treatments you should receive. If you decide to participate, you will be asked to sign this written informed consent form. You have the right to withdraw from the trial at any stage without discrimination or unfair treatment, and your corresponding medical treatment and rights will not be affected.

2. Precautions

As a subject, you need to provide truthful information about your medical history and current physical condition; inform the research doctor of any discomfort you experience during the study; possibly discontinue certain medications before visits under the doctor's guidance to facilitate examinations; inform the research doctor if you have recently participated in or are currently participating in other studies.

九、Contact Information for Inquiries

If any significant new information arises during the study that might affect your willingness to continue participation, your doctor will notify you promptly. If you have questions about your research data, or wish to know the findings of this study after its conclusion, you can ask any questions related to this study at any time and receive corresponding answers. Please contact [Shuya Huang] via telephone at [+86 17852063100].

The Ethics Committee has reviewed and approved this study. If you have any questions related to your rights/welfare, or if you wish to report difficulties, dissatisfactions, or concerns encountered during your participation, or provide feedback and suggestions related to this study, please contact the Beijing Chao-Yang Hospital Ethics Committee at: No. 8 Gongti South Road, Chaoyang District, Beijing. Tel: 010-85231484, Email: cyylunli2019@163.com.

Informed Consent Signature

1. I have carefully read the patient information section of this informed consent form for this trial/study project. The research doctor has provided me with detailed explanations and answered my related questions. I fully understand the purpose, procedures, my rights, and the risks of participating in this trial/study. I voluntarily agree to participate in this trial/study and consent to cooperate with the research doctor for treatment and follow-up according to the content of this informed consent form, and I will endeavor to complete this trial/study.

Subject Signature:

(Printed Name) _____ (Handwritten Signature) _____ Date: //_____

Or Impartial Witness Signature (if applicable):

(Printed Name) _____ (Handwritten Signature) _____ Date: //_____

Or Legal Guardian Signature (if necessary):

(Printed Name) _____ Relationship to Subject: _____

(Handwritten Signature) _____ Date: //_____

2. I, or my designated research staff, have fully explained and described to the subject the purpose, procedures, potential risks, and potential benefits of participating in this trial/study, and have satisfactorily answered all of the subject's related questions.

Signature of Investigator or Designated Informer:

(Printed Name) _____ (Handwritten Signature) _____ Date: //_____

Both the subject and the investigator must sign 2 identical copies of the informed consent form; each party retains 1 copy.