Study Title: CPARC: Colorado Pulmonary Alcohol Research Consortium

Principal Investigator: Dr. Ellen Burnham
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You are being asked to be in a research study. This form provides you with information about the study. A member of the research team will describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

Why is this study being done?

This study plans to learn more about what heavy alcohol drinking does to the lungs. The purpose of this study is to get a sample of some of the cells from inside your lung to figure out how they work compared to people who drink too much alcohol. People who drink too much alcohol appear to be at a higher risk for getting a bad lung condition known as the *acute respiratory distress syndrome*, or "ARDS". ARDS is a disease that affects people's lungs after a bad illness, such as a lung infection or other infection. People who drink too much have a higher likelihood of getting a lung infection, particularly a severe lung infection, and this might be part of the reason they often will develop ARDS.

People who drink too much alcohol have lungs that work differently than the lungs of people who don't use alcohol. Some of the cells inside the lungs that are important for fighting infections do not work well. Also, there are smaller amounts of natural substances which keep the lungs healthy. The thin layer of cells that keeps the inside of the lung dry may become leaky in people who drink too much alcohol. Alcohol is also toxic to bone marrow which may result in a decreased number of circulating primitive cells. All of this may explain why people who drink too much alcohol can get the lung disease ARDS. They may also explain why people who drink too much alcohol get lung infections more often.

You are being asked to be in this research study because you are healthy, or your medical problems are controlled on medications.

Once samples are collected, the samples from people who use alcohol will be compared to the samples from people who don't to see if there are differences.

Other people in this study

Up to 250 people from your area will participate in the study.
Up to 260 participants will be included in the study group.

What happens if I join this study?

1. Required procedures:

If you join this study, you will have the following procedures performed on your study visit day. Each of these procedures listed below are **required**:

a. Examination: You will undergo a brief medical history, physical examination, vital signs including seated blood pressure measurements, weight, pulse rate, respiratory rate and temperature.

b. You will be asked to answer a survey that will include questions about your medical history, alcohol history, smoking history, and drug use history. There will also be questions about any troubles or concerns you have with your breathing. It will take 45 minutes for you to answer all the questions.

2. Optional procedures:

You will also perform some or all procedures listed below (those not applicable marked with "n/a"). Each of these procedures are **optional:**

c. Chest X-Ray and Pulmonary Function Testing: the pulmonary function test is a breathing test that measures how fast air moves in and out the lungs. This will show us that your lungs work normally. The chest x-ray will look for any abnormalities in the lungs. Both the chest x-ray and breathing test are done as an extra safety precaution before the bronchoscopy procedure. If you are a woman, you will have a urine pregnancy test before the chest x-ray, and will not continue in the study if you are pregnant. If any of these tests are not normal, you will not be asked to continue in this study. We will make sure you have a referral for a follow up appointment with a doctor that can assess any problem(s) that is there.

_____yes _____no _____n/a

d. Blood sampling*:* Approximately 6 teaspoons of blood will be drawn to determine eligibility for the bronchoscopy portion of the study, to evaluate the primitive, or immature cells in your circulation, and to measure specific compounds that can indicate how healthy your body is to fight off lung diseases, such as infections and ARDS.

_____yes _____no _____n/a

e. Urine sampling: Approximately ½ cup of urine will be collected to determine your eligibility for the bronchoscopy portion of the study and to evaluate proteins that may be seen if kidney damage is present. If you are a woman, you will have a urine pregnancy test done before the chest x-ray and will not be enrolled in the study if this test shows you are pregnant.

_____yes _____no _____n/a

f. Stool Sampling: We will collect about 1/3 teaspoon of stool during your study visit. If you are unable to provide a sample at the visit, we will provide you with a kit with instructions on how to collect the sample and a pre-paid container to ship your sample back to us.

_____yes _____no _____n/a

Nasal Epithelial Brushing: Nasal epithelial brushing will be performed by placing a small, sterile cytology brush into each nostril, with your head slightly tilted back. The brushes will be rotated in a circle against the side of your nose to collect a small sample of cells with slight pressure will be applied to the nostril walls. The entire brushing procedure will last no longer than 5 seconds in each nostril.

_____yes _____no _____n/a

All of the above tests will take approximately 1.5 hours to complete and will be performed at the University of Colorado Hospital.

f. Bronchoscopy: The bronchoscopy test **must** be done at the University of Colorado Hospital CTRC. A separate consent form (other than this one) will need to be signed by you for the bronchoscopy. Before starting, your heart rate, blood pressure, breathing rate, and level of oxygen in the blood will be measured. You should not have eaten at least 6 hours prior to the procedure. You should not have had any alcohol to drink 24 hours before the procedure.

_____yes _____no _____n/a

A small plastic catheter (IV) will be placed in a vein in your arm. The catheter will be taped into place.

A numbing medicine known as lidocaine will be sprayed in the back of your throat and inside of your nose. This is done to prevent coughing and discomfort. A small amount of relaxing medicine may be given through the IV catheter to help to comfort you as well. The relaxing medicines we commonly use during this procedure are called Midazolam (Versed) and Fentanyl. Many patients find that they do not remember the procedure being performed after receiving these medicines. You may fall into a light sleep after the medicine has been given. You should wake up easily if your name is called. The medicine starts working in about 5 minutes and lasts in your body for about one hour. These medicines can lower your blood pressure and cause your breathing to slow. We will watch your blood pressure and level of blood oxygen through the whole procedure. This is to make sure you are safe.

A bronchoscope is a thin tube with a camera to see your lung. This tube will be passed through your mouth or nose and into a part of your lung. It will be held steady in a part of your lung. First, we will use up to three soft, flexible brushes that we will insert one at a time through the bronchoscope to gently scrape off cells from

inside your lung. Once we have brushed the inside of your lung, we will remove the brushes. Next we will inject 1½ ounces of sterile salt water (saline) through the bronchoscope into the lung. This may be done up to six times. The salt water will be immediately taken out through the bronchoscope and collected in a container.

The total amount of time it will take from start to finish for the bronchoscopy procedure is about four hours. Most of this time will be spent making sure you are ready and comfortable for the procedure. The actual procedure takes about 20 minutes. You will be watched for about one more hour after the procedure and then discharged when you are fully awake and stable.

Below, the study visit timeline is explained in words:
ALL tests (consent, questionnaires, pulmonary function testing (PFTs), chest xray (CXR), urine sampling, blood sampling, nasal brushing, stool collection, AND bronchoscopy) should take NO MORE than 6 hours.

1) After the consent process is performed, you will be asked to schedule and complete a COVID-19 nasal swab test at a UCH testing site within 72 hours prior to your scheduled CTRC visit. Upon a confirmed negative COVID-19 test, the study team will confirm your CTRC appointment, and you will be asked to fast for 6 hours prior to your CTRC appointment.

2) Upon arrival to CTRC, you will have your blood and urine taken and sent for lab processing; CXR and PFTs are also completed. This first series of events will take between 30 minutes and 1 hour.

3) While processing occurs and results are pending, you will complete the questionnaire material. If laboratory results return with an abnormality that excludes you from bronchoscopy, the 5-hour duration will be truncated as no bronchoscopy is performed. UCH lab testing times vary with quick results returned in approximately 30 minutes; however, it could take up to 1 hour. If the abnormality is a positive urine drug screen test, it could be a very short visit as no further study procedures occur and you will be discharged.

4) You will be transported to UCH radiology for CXR and UCH respiratory unit for PFTs. The process typically takes between 30 minutes and 1 hour. If the abnormality is an abnormal CXR or PFTs, the visit may be longer as these studies are evaluated for eligibility by study investigators.

5) However, you will ONLY undergo bronchoscopy (with a 1-2 hour post conscious sedation monitoring period) if all testing results meet enrollment criteria.

A responsible person must be available to drive you home. You will not be allowed to operate a car or heavy machinery after the procedure until the following day. If you do not have a ride, we will allow you to spend an additional night in the CTRC.

Study participation will last approximately 24 hours.

What are the possible discomforts or risks?

Discomforts you may experience while in this study include:

Risks from Bronchoscopy: Overall, the risks for the bronchoscopy procedure are very low. Some patients do find the procedure uncomfortable. During the procedure, you may experience some coughing and a sensation of difficulty breathing. In the 24 hours following the procedure, fever is possible 8% of the time. Additionally, sore throat is not uncommon after the procedure and typically resolves within 24 hours.

The following have been reported less than 1% of the time: bleeding in the lungs, collapse of the lung (pneumothorax), severe difficulty breathing or bronchospasm, and death. From the sedating medication alone, you may experience: momentary fall in blood pressure (5%), slowing of the breathing rate (10%), nausea and vomiting, headache, or hiccoughs and allergic reaction, such as itching. (each less than 5% of the time). The numbers given in parentheses are the chance that that complication could happen to you. No long lasting effects on memory have been reported from this medication.

Risks of lidocaine: There is a rare risk of an allergic reaction to the medication. If you have a known allergy to lidocaine, we will not use any lidocaine.

Risks from pulmonary function testing: You may experience a feeling of lightheadedness from breathing through the spirometry tubing. Also, there is a rare but serious risk of a collapsed lung (less than 1%).

Risks from completing survey: There are no known risks to filling out this survey.

Risks of having blood taken: In this study we will need to get about 6 teaspoons of blood from you. We will get blood by putting a needle into one of your veins and letting the blood flow into a glass tube. You may feel some pain when the needle goes into your vein. A day or two later, you may have a small bruise where the needle went under the skin.

Risks of having urine and stool taken: There are no known risks to providing a urine or stool sample.

Risks of having an IV inserted into your vein: In this study we will insert a needle, connected to a plastic tube, into a vein in your arm. We will use the tube to take blood samples or give you fluids. You will feel some pain when we first insert the tube into your vein. You may have some redness, swelling, or bruising where the tube goes under your skin. In some cases, this type of tube can cause an infection where it goes under the skin. In rare cases, it can cause a blood clot in the vein. You will have this

tube inserted for less than 24 hours.

Risks from a chest x-ray: As part of this study we will perform an X-ray of your chest. X-rays are a type of radiation. Your natural environment has some radiation in it. This series of X-rays will give you about the same amount of radiation that you would get from your environment in 2 days.

Risks from nasal brushing: There is a minor risk of tears in your eyes, nose running and rare nose bleeding. We will not perform this procedure if you have a known risk of bleeding.

There is a risk that people outside of the research team will see your research information. We will do all that we can to protect your information, but it cannot be guaranteed.

The study may include risks that are unknown at this time.

Certificate of Confidentiality

If you decide to take part in this research study, you will be required to give us information about your alcohol and other drug use. This study has been issued a Certificate of Confidentiality from the federal government to help protect your privacy. The Certificate prohibits the researchers from disclosing your name, or any identifiable information, document or biospecimen from the research, with the exceptions listed below. A certificate provides protections against disclosing research information in federal, state, or local civil, criminal, administrative, legislative or other proceedings.

These protections apply only to your research records. The protections do not apply to your medical records.

The researchers may disclose your name or identifiable information, document or biospecimen, under the following circumstances:

- To those connected with the research,
- If required by Federal, State or local laws,
- If necessary for your medical treatment, with your consent,
- To comply with mandated reporting, such as a possible threat to harm yourself or others, reports of child abuse, and required communicable disease reporting, or
- Under other circumstances with your consent.

A Certificate of Confidentiality does not protect information you or a member of your family voluntarily release.

What are the possible benefits of the study?

This study is designed for the researcher to learn more about alcohol and the lung.

This study is not designed to treat any illness or to improve your health. The procedures may help you in earlier detection of a disease. The procedures used in this study are not available outside of research studies.

If you decide to take part in this study, there is no promise that your health will improve. Also, there are risks as mentioned in the Discomforts and Risks section above.

Who is paying for this study?

This research is being sponsored by the National Institute of Health (NIH).

Will I be paid for being in the study?

If your urine test is positive for certain drugs, no further study procedures will occur and you will not be eligible for any payment. If you complete all study procedures, you will be paid up to $340 in the form of a Visa or electronic gift card for your participation. If you do not qualify for the bronchoscopy procedure after other screening tests are completed at the University of Colorado Hospital CTRC, you will be compensated for your time with a $25 Visa or electronic gift card.

Payments for Healthy Controls	
Blood Draw/Urine (Screening)	$ 25.00
Blood Draw (Research)	$ 10.00
Stool Collection (Research)	$ 25.00
Urine Collection (Research)	$ 10.00
Nasal Brushings	$ 20.00
Bronchoscopy with BAL/Brushings	$ 250.00
Total	$ 340.00

If your COVID-19 test is positive, no further study procedures will occur at that time. We will offer to reschedule your study visit for a future date when you are no longer positive for COVID-19, and you will be paid upon reschedule and completion of study procedures.

It is important to know that payments for participation in a study is taxable income.

Will I have to pay for anything?

It will not cost you anything to be in the study.

Is my participation voluntary?

Taking part in this study is voluntary. You have the right to choose not to take part in this study. If you choose to take part, you have the right to stop at any time. If you refuse or decide to withdraw later, you will not lose any benefits or rights to which you are entitled.

Can I be removed from this study?

The study doctor may decide to stop your participation without your permission. This would be done if he or she thinks that being in the study may cause your harm, or for any other reason. Also, the sponsor may stop the study at any time.

What happens if I am injured or hurt during the study?

If you have an injury while you are in this study, you should call Dr. Ellen Burnham immediately. Her phone number is (303) 724-6079.

We will arrange to get you medical care if you have an injury that is caused by this research. However, you or your insurance company will have to pay for that care.

Who do I call if I have questions?

The researcher carrying out this study is Dr. Ellen Burnham. You may ask any questions you have now. If you have questions later, you may call Dr. Burnham at

(303) 724-6079. A Research Subject Advocate is also available on the Clinical Translational Research Center at 720-848-6662 to answer questions relating to participation in this study. You will be given a copy of this form to keep.

If you have questions regarding your rights as a research subject, please call the Colorado Multiple Institutional Review Board (COMIRB) office at (303) 724-1055 or, CTRC Advocate at (720) 848-6662.

Optional Consent and Authorization for Specimen and Data Banking for Future Research

Dr. Ellen Burnham would like to keep some of the blood, urine, stool, nasal brushings, bronchoscopy samples and data that are taken during the study but is not used for other tests. If you agree, the samples and data will be kept and may be used in future research to learn more about lung diseases. The research that is done with your samples and data is not designed to specifically help you. It might help people who have lung diseases and other diseases in the future. Reports about research done with your samples and data will not be given to you or your doctor. These reports will not be put in your health records. The research using your sample and data will not affect your care.

The choice to let Dr. Burnham keep the sample and data for future research is up to you. No matter what you decide to do, it will not affect the care that you will receive as part of the study. If you decide now that your data and samples can be kept for research, you can change your mind at any time and contact your study doctor to let him or her know that you do not want Dr. Burnham to use your samples and data any longer, and they will no longer be used for research. Otherwise, they may be kept until

they are used up, or until Dr. Burnham decides to destroy them.

If a subject wants his or her sample discarded, this will be done with the subject's written request (see address below). The subject will be given a phone number (see number below) to call should he or she want discuss having his/her specimens destroyed (which will be done via written consent).

CC: Dr. Ellen Burnham
12700 E 19th Ave
Research 2, Box C272,
Aurora, CO 80045
(303) 724-6079

When your samples or data are given to other researchers in the future, Dr. Burnham will not give them your name, address, phone number or any other information that will let the researchers know who you are.

Sometimes sample or data are used for genetic research (about diseases that are passed on in families). Even if your sample or data are used for this kind of research, the results will not be told to you and will not be put in your health records. Your sample and will only be used for research and will not be sold. The research done with your sample and data may help to develop new products in the future, but there is no plan for you to be paid.

The possible benefits of research from your sample and include learning more about what causes lung disease and other diseases, how to prevent them and how to treat them. The greatest risk to you is the release of your private information. Dr. Burnham will protect your records so that your name, address and phone number will be kept private. The chance that this information will be given to someone else is very small. There will be no cost to you for any sample collection and storage by Dr. Burnham.

Please read each sentence below and think about your choice. After reading each sentence, check "yes" or "no." If you have questions, please talk to your doctor or nurse. Remember, no matter what you decide to do about the storage and future use of your data and samples, you may still take part in the study.

I give my permission for my data, blood and tissue to be stored in a central tissue bank at the University of Colorado Denver, for future use by the study investigators:

1. I give my permissions for my data, blood, urine, stool, nasal brushing, and bronchoscopy samples to be kept by Dr. Burnham for use in future research to learn more about how to prevent, detect, or treat lung diseases.

   ☐ Yes ☐ No _____Initials

2. I give my permissions for my data, blood, urine, stool, nasal brushing, and bronchoscopy samples to be used for research about other health problems (for

example: causes of heart disease, osteoporosis, diabetes).

☐ Yes ☐ No _____Initials

3. I give my permission for my study doctor (or someone he or she chooses) to contact me in the future to ask me to take part in more research.

☐ Yes ☐ No _____Initials

Who will see my research information?

The University of Colorado Denver and the hospital(s) it works with have rules to protect information about you. Federal and state laws including the Health Insurance Portability and Accountability Act (HIPAA) also protect your privacy. This part of the consent form tells you what information about you may be collected in this study and who might see or use it.
The institutions involved in this study include:

- University of Colorado Denver
- University of Colorado Hospital

We cannot do this study without your permission to see, use and give out your information. You do not have to give us this permission. If you do not, then you may not join this study.

We will see, use and disclose your information only as described in this form and in our Notice of Privacy Practices; however, people outside the University of Colorado Denver and its affiliate hospitals may not be covered by this promise.

We will do everything we can to keep your records a secret. It cannot be guaranteed.

The use and disclosure of your information has no time limit. You can cancel your permission to use and disclose your information at any time by writing to the study's Primary Investigator, at the name and address listed below. If you do cancel your permission to use and disclose your information, your part in this study will end and no further information about you will be collected. Your cancellation would not affect information already collected in this study.

Dr. Ellen Burnham
12700 E. 19th Ave.; C272
Aurora, CO 80045

Both the research records that identify you and the consent form signed by you may be looked at by others who have a legal right to see that information.

- Federal offices such as the Food and Drug Administration (FDA) that protect research subjects like you.

- People at the Colorado Multiple Institutional Review Board (COMIRB)
- The study doctor and the rest of the study team.
- *The National Institute of Health (NIH)* who is the agency paying for this research study.
- Officials at the institution where the research is being conducted and officials at other institutions involved in this study who are in charge of making sure that we follow all of the rules for research

We might talk about this research study at meetings. We might also print the results of this research study in relevant journals. But we will always keep the names of the research subjects, like you, private.

You have the right to request access to your personal health information from the Investigator.

Information about you that will be seen, collected, used and disclosed in this study:

- Name and Demographic Information (age, sex, ethnicity, address, phone number, email address, location of birth). Your name, phone number and email address will be kept separate from research specimens and data.
- Your social security number
- Portions of my previous and current Medical Records that are relevant to this study, including but not limited to Diagnosis(es), History and Physical, laboratory or tissue studies, radiology studies, procedure results
- Research Visit and Research Test records
- Alcoholism, Alcohol or Drug abuse

What happens to, Blood and Specimens that are collected in this study?

Scientists at the University of Colorado Denver and the hospitals involved in this study work to find the causes and cures of disease. The blood and specimens collected from you during this study are important to this study and to future research. If you join this study:

- The blood or other specimens are given by you to the investigators for this research and so no longer belong to you.
- Both the investigators and any sponsor of this research may study your blood, or other specimens collected from you.
- If blood, or other specimens are in a form that identifies you, UCD or the hospitals involved in this study may use them for future research only with your consent or IRB approval.
- Any product or idea created by the researchers working on this study will not belong to you.
- There is no plan for you to receive any financial benefit from the creation, use or sale of such a product or idea.

HIPAA Authorization for Optional Additional Study Procedures –

In this form, you were given the option to agree to additional, optional research procedures. You must also give us your permission, under HIPAA rules, to use and disclose the information collected from these optional procedures, as described above.

If you decline to give us permission to use and disclose your information, you cannot take part in these optional procedures, but you can still participate in the main study. Please initial next to your choice:

_____ I give permission for my information, from the optional procedures I have agreed to above, to be used and disclosed as described in this section.

_____ I **do not** give permission for my information for any optional procedures to be used and disclosed; I understand that I will not participate in any optional procedures.

Agreement to be in this study and use my data

I have read this paper about the study or it was read to me. I understand the possible risks and benefits of this study. I understand and authorize the access, use and disclosure of my information as stated in this form. I know that being in this study is voluntary. I choose to be in this study: I will get a signed and dated copy of this consent form.

Subject Signature:_____ Date:_____

Subject Printed Name:_____

Study Personnel explaining Consent form (printed name):_____

Date:_____

Study Personnel Signature:_____

Study Personnel Role/Title:_____

Witness signature:_____Date: _____

Witness printed Name: _____

Witness of Signature ☐

Witness of consent process ☐