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**A PHASE II STUDY OF THE USE OF ULTRA LOW-DOSE BILATERAL WHOLE
LUNG RADIATION THERAPY IN THE TREATMENT OF CRITICALLY ILL
PATIENTS WITH COVID-19 RESPIRATORY COMPROMISE**

The Ohio State University Combined Consent to Participate in Research and HIPAA Research Authorization

Study Title: A PHASE II STUDY OF THE USE OF ULTRA LOW-DOSE
BILATERAL WHOLE LUNG RADIATION THERAPY IN THE
TREATMENT OF CRITICALLY ILL PATIENTS WITH
COVID-19 RESPIRATORY COMPROMISE

Principal Investigator: Arnab Chakravarti, MD

Sponsor: The Ohio State University, Department of Radiation Oncology

- **This is a consent form for research participation.** It contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to discuss the study with your friends and family and to ask questions before making your decision whether or not to participate.
- **Your participation is voluntary.** You may refuse to participate in this study. If you decide to take part in the study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you and you will not lose any of your usual benefits. Your decision will not affect your future relationship with The Ohio State University. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.
- **You may or may not benefit as a result of participating in this study.** Also, as explained below, your participation may result in unintended or harmful effects for you that may be minor or may be serious depending on the nature of the research.
- **You will be provided with any new information that develops during the study that may affect your decision whether or not to continue to participate.** If you decide to participate, you will be asked to sign this form and will receive a copy of the form. You are being asked to consider participating in this study for the reasons explained below.

Key Information:

Low doses of radiation in the form of chest X-rays used to be used to treat people with pneumonia. This treatment was found to be effective by reducing inflammation without side effects for treating such illnesses. However, it was an expensive treatment and was eventually replaced with less expensive treatment options like penicillin.

Recently, the COVID-19 virus has emerged causing high rates of pneumonia in people. We believe that by giving a small dose of radiation (similar to X-rays) we could reduce inflammation in the lungs and neutralize the pneumonia caused by COVID-19.

This study will evaluate you at 1 day, 1 week, 2 weeks, 1 month, 3 months, 6 months, 9 months, 12 months, and at 18 months following the X-ray treatment.

1. Why is this study being done?

You are being asked to take part in this study because you have the COVID-19 virus. Some patients diagnosed with COVID 19 pneumonia will experience worsening disease, which can become very serious. This is caused by inflammation in your lung caused by the virus and your immune system. Low doses of x-rays are known to reduce some types of inflammation, such as those resulting from severe arthritis and infections.

The purpose of this study is to find out if adding a single treatment of low-dose x-rays to the lungs might reduce the amount of inflammation in the lungs from COVID-19 infection, which could help you get off the ventilator (breathing tube).

The x-ray given is called radiation therapy. Radiation therapy uses high-energy X-ray beams from a large machine to target the lungs and reduce inflammation. This treatment had been used to treat some chest infections before antibiotics were discovered. It has also been shown in some animal experiments that it can reduce some types of inflammation. Usually, it is given at much higher doses to treat cancers.

We don't know if this treatment will be of benefit to you. This treatment is experimental and may cause you harm. However Radiation treatment has been used for over 100 years in the treatment of cancer and also in the treatment of other conditions causing inflammation. At the doses used to treat COVID-19 in this study, current research suggests that the risk of harm is very low.

2. How many people will take part in this study?

Approximately 24 people will take part in this study at OSU.

3. What will happen if I take part in this study?

If you take part in this study you will receive one very low dose of radiation to your lungs. The dose is greater than that of an imaging study, but much less than the dose prescribed for even one portion of a treatment for cancer patients. We will also take blood and urine samples before you receive radiation and 1 day after you received the radiation to your chest. The samples will be collected and studied by researchers at OSU to look for

inflammatory mechanisms related to the COVID-19. The samples will not alter your treatment in any way.

You may also be asked to have follow up CT scans of your chest to look at how your lungs responded to the treatment. If your doctor does not schedule a CT scan then we will request a scan at 1 week, 2 weeks, and 1 month after your radiation treatment. The scan should take 20-30 minutes.

Since COVID-19 is new and we don't know much about this virus, we would also like to collect blood and urine samples 1 week, 2 weeks, 1 month, 3 months, 6 months, 12 months and at 18 months after your radiation treatment. These samples will continue to help our researchers understand this virus. The amount of blood taken will be about 1-2 table spoons worth of fluid and the urine will be about ½ cup. This will take 10-20 minutes to collect.

If you decide to participate in this study, you will be given a study ID number and all information collected about you will be coded. The research team will collect clinical information such as age, gender, blood type, medical history, medications, etc. This information will be kept secure by electronic data capture with password protected access only. The research team on this study will be the only people with access. The data will not be shared with any outside institution or business.

Please note that genetic testing could be performed on your blood and urine to look for genetic changes that are associated with COVID-19. The tests conducted under this study may reveal unforeseen genetic change associated with an increased risk for you and your family members. Since the genetic studies described are for research purposes only, any findings should be validated in a government-licensed laboratory for confirmation. In the rare case that an incidental finding was to be identified your physician will notify you to discuss further.

The Study team will also need access your medical records for your research visits and all treatment information related to your COVID diagnoses.

If you do not seem to be improving after 3-10 days, you may be able to receive an OPTIONAL second small dose of radiation. If you wish to participate in this trial, you do not have to agree to a second dose.

____ (Initial) I wish to have a second small dose of radiation if my breathing is not improving.

4. How long will I be in the study?

You will be enrolled in the study for up to 18 months following your radiation treatment.

Your follow up visits at 1 week, 2 weeks, 1 month, 3 months, 6 months, 12 months and at 18 months after your radiation treatment will take approximately 30 minutes.

The length of time that your blood and urine is stored will vary. Your samples will be stored until the sample has been used up, the study ends, or you decide to withdraw your consent.

If the lead investigator on this study should leave the university another lead investigator will be appointed within the Department of Radiation Oncology and therefore the study will continue as planned.

5. Can I stop being in the study?

You may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

6. What risks, side effects or discomforts can I expect from being in the study?

The dose of Radiation for the treatment is greater than that of an imaging study, but much less than the dose prescribed for even one portion of a treatment for cancer patients. There is always a low risk of secondary malignancy with radiation treatment, but the risks associated with the radiation given in this study is considered minimal. There is also a possibility of nausea after treatment.

This research study may also involve exposure to radiation from a CT chest. This radiation exposure is not necessary for your medical care and is for research purposes only. The total amount of radiation that you will receive in this study is about 9.3 mSv or 930 mrem, and is approximately equivalent to a whole body exposure of 1132 days (3.1 years) of exposure to natural background radiation. This use involves minimal risk and is necessary to obtain the research information desired.

The risks associated with blood draws may include pain, redness, swelling, and/or bruising at the needle insertion site. Efforts will be made to collect the blood through a preexisting intravenous access, or at the time of a clinically indicated phlebotomy. The blood taken will be approximately 2-3 table spoons.

Another possible risk associated with this study is a breach (break) of confidentiality. Such a breach of confidentiality would only occur in the event of an error as all paper and computer based files will be kept in a secure location and only be accessible to personnel involved in the study.

A federal law, called the Genetic Information Nondiscrimination Act (GINA), generally makes it illegal for health insurance companies, group health plans, and most employers to discriminate against you based on your genetic information. This law generally will protect you in the following ways:

- Health insurance companies and group health plans may not request your genetic information from this research.
- Health insurance companies and group health plans may not use your genetic information when making decisions about your eligibility or premiums.
- Employers with 15 or more employees may not use your genetic information from this research when making a decision to hire, promote, or fire you or when setting the terms of your employment.

All health insurance companies and group health plans must follow this federal law. This law does not protect you against genetic discrimination by companies that sell life insurance, disability insurance, or long-term care insurance. Under Ohio law, health insurance companies cannot ask about the results of a genetic test or use any information obtained from genetic testing to make decisions about providing coverage or benefits for health care services.

7. What benefits can I expect from being in the study?

There may be no immediate benefits to you during this study. However, it is hoped that the low dose of radiation could cure or help reduce your pneumonia and get you off of the ventilator.

8. What other choices do I have if I do not take part in the study?

You may choose not to participate without penalty or loss of benefits to which you are otherwise entitled.

9. What are the costs of taking part in this study?

There are no additional costs for you to participate in this study. The radiation and blood/urine will be covered by the clinical trial at OSU. You will only be responsible for meeting any co-pay and deductible requirements by your insurance plan for your standard of care procedures.

10. Will I be paid for taking part in this study?

You will not be paid for participating in this study.

It is also important to note that you will not receive monetary benefit should any inventions be developed based off this study.

11. What happens if I am injured because I took part in this study?

If you suffer an injury from participating in this study, you should notify the researcher or study doctor immediately, who will determine if you should obtain medical treatment at The Ohio State University Wexner Medical Center.

The cost for this treatment will be billed to you or your medical or hospital insurance. The Ohio State University has no funds set aside for the payment of health care expenses for this study.

12. What are my rights if I take part in this study?

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By signing this form, you do not give up any personal legal rights you may have as a participant in this study.

You will be provided with any new information that develops during the course of the research that may affect your decision whether or not to continue participation in the study.

You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled.

An Institutional Review Board responsible for human subjects research at The Ohio State University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of research participants.

13. Will my de-identified information and bio-specimens be used or shared for future research?

Yes, your de-identified information may be used or shared with other researchers without your additional informed consent.

14. Will my study-related information be kept confidential?

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law.

Also, your records may be reviewed by the following groups (as applicable to the research):

- Office for Human Research Protections or other federal, state, or international regulatory agencies;
- U.S. Food and Drug Administration;
- The Ohio State University Institutional Review Board or Office of Responsible Research Practices;
- The sponsor supporting the study, their agents or study monitors; and
- Your insurance company (if charges are billed to insurance).

A description of this clinical trial will be available on <http://www.ClinicalTrials.gov>, as required by U.S. law. This website will not include information that can identify you. At most, the website will include a summary of the results. You can search the website at any time.

15. HIPAA AUTHORIZATION TO USE AND DISCLOSE INFORMATION FOR RESEARCH PURPOSES

I. What information may be used and given to others?

- Past and present medical records;
- Research records;

- Records about phone calls made as part of this research;
- Records about your study visits;
- Information that includes personal identifiers, such as your name, or a number associated with you as an individual;
- Information gathered for this research about:
 - HIV / AIDS
 - Hepatitis infection
 - Sexually transmitted diseases
 - Other reportable infectious diseases
 - Physical exams
 - Laboratory, x-ray, and other test results
 - Diaries and questionnaires
 - The diagnosis and treatment of a mental health condition
- Records about any study drug you received;
- Records about the study device; and

II. Who may use and give out information about you?

Researchers and study staff allocated to this study only.

III. Who might get this information?

- The sponsor of this research. “Sponsor” means any persons or companies that are:
 - working for or with the sponsor; or
 - owned by the sponsor.
- Authorized Ohio State University staff not involved in the study may be aware that you are participating in a research study and have access to your information;
- If this study is related to your medical care, your study-related information may be placed in your permanent hospital, clinic, or physician’s office record;
- Others: *none*

IV. Your information may be given to:

- The U.S. Food and Drug Administration (FDA), Department of Health and Human Services (DHHS) agencies, and other federal and state entities;
- Governmental agencies in other countries;
- Governmental agencies to whom certain diseases (reportable diseases) must be reported; and
- The Ohio State University units involved in managing and approving the research study including the Office of Research and the Office of Responsible Research Practices.

V. Why will this information be used and/or given to others?

- To do the research;
- To study the results; and
- To make sure that the research was done right.

VI. When will my permission end?

There is no date at which your permission ends. Your information will be used indefinitely. This is because the information used and created during the study may be analyzed for many years, and it is not possible to know when this will be complete.

VII. May I withdraw or revoke (cancel) my permission?

Yes. Your authorization will be good for the time period indicated above unless you change your mind and revoke it in writing. You may withdraw or take away your permission to use and disclose your health information at any time. You do this by sending written notice to the researchers. If you withdraw your permission, you will not be able to stay in this study. When you withdraw your permission, no new health information identifying you will be gathered after that date. Information that has already been gathered may still be used and given to others.

VIII. What if I decide not to give permission to use and give out my health information?

Then you will not be able to be in this research study and receive research-related treatment. However, if you are being treated as a patient here, you will still be able to receive care.

IX. Is my health information protected after it has been given to others?

There is a risk that your information will be given to others without your permission. Any information that is shared may no longer be protected by federal privacy rules.

X. May I review or copy my information?

Signing this authorization also means that you may not be able to see or copy your study-related information until the study is completed.

16. Who can answer my questions about the study?

**CONSENT &
AUTHORIZATION**

IRB Protocol Number: 2020H0197
IRB Approval date: 02/20/2021
Version: 03

For questions, concerns, or complaints about the study, or if you feel you have been harmed as a result of study participation, you may contact **Dr. Arnab Chakravarti at 614-293-0672 or Arnab.Chakravarti@osumc.edu**.

For questions related to your privacy rights under HIPAA or related to this research authorization, please contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Office of Responsible Research Practices at 1-800-678-6251.

If you are injured as a result of participating in this study or for questions about a study-related injury, you may contact **Dr. Arnab Chakravarti at 614-293-0672 or Arnab.Chakravarti@osumc.edu**.

Signing the consent form

I have read (or someone has read to me) this form and I am aware that I am being asked to participate in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I voluntarily agree to participate in this study.

I am not giving up any legal rights by signing this form. I will be given a copy of this combined consent and HIPAA research authorization form.

_____ Printed name of participant	_____ Signature of participant
	_____ Date and time
	AM/PM
_____ Printed name of person authorized to consent for participant (when applicable)	_____ Signature of person authorized to consent for participant (when applicable)
	_____ Date and time
	AM/PM
_____ Relationship to the participant	

**CONSENT &
AUTHORIZATION**

IRB Protocol Number: 2020H0197
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Version: 03

Investigator/Research Staff

I have explained the research to the participant or his/her representative before requesting the signature(s) above. There are no blanks in this document. A copy of this form has been given to the participant or his/her representative.

_____	_____
Printed name of person obtaining consent	Signature of person obtaining consent
	_____ AM/PM
	Date and time

Witness(es) - *May be left blank if not required by the IRB*

_____	_____
Printed name of witness	Signature of witness
	_____ AM/PM
	Date and time

_____	_____
Printed name of witness	Signature of witness
	_____ AM/PM
	Date and time