Are you participating in any other research studies? _____Yes _____No

Please read this carefully. Take time to ask as many questions as you want. If there are any words or information you do not clearly understand, study personnel will be happy to explain them to you.

PURPOSE OF RESEARCH

You are invited to participate in a research study of an investigational surgical device called BioBridge. An investigational device is one that has not been approved by the U.S. Food and Drug Administration (FDA) for the use in patients. Lymphedema is the abnormal, excess accumulation of lymph (clear fluid found outside the cells which bathes the tissues), due to faulty drainage. You were selected as a possible participant for this research study because you have arm lymphedema and will be undergoing vascularized lymph node transfer surgery.

This study is designed to investigate whether the outcome of lymph node transfer surgery for arm lymphedema can be improved by the use of the BioBridge at the time of the surgery. The use of the BioBridge is intended to stimulate and accelerate the growth of lymphatic vessels into the transplanted lymph node. The BioBridge has been used successfully in a large animal study of lymphedema. This is the first in-human use of the BioBridge.

This Phase 2 research study, taking place at Stanford University, will enroll up to 60 participants with arm lymphedema, secondary to breast cancer treatment, who are undergoing vascularized lymph node transfer. Up to 48 participants will undergo lymph node transfer with BioBridge scaffold placement. Up to 12 participants will undergo lymph node transfer only.

VOLUNTARY PARTICIPATION

Your participation in this study is entirely voluntary. Your decision not to participate will not have any negative effect on you or your medical care. You can decide to participate now, but withdraw your consent later and stop being in the study without any loss of benefits or medical care to which you are entitled.

If you decide to terminate your participation in this study, you should notify Dr. Rockson at [redacted]

DURATION OF STUDY INVOLVEMENT

The total duration of the study is expected to be 36-38 months. Participants will be enrolled locally at this site. If you choose to participate in this study, you will be enrolled as a study participant for an anticipated duration of 36-38months.

The overall study design is made up of the following periods:

Screening (to determine if you are eligible to be in the study)

Treatment (implantation of the BioBridge at the time of surgery and follow-up over the next 12 months at 3-month intervals)

End-of-Treatment Visit (final study evaluation)

Surveillance (follow-up study visits at 2 and 3 years after surgery)

During the course of enrollment, you will undergo 2-4 extremity lymphoscintigrams (lymph scans) and 4 skin biopsies from the treated limb (2 before treatment and 2 at end of study)

PROCEDURES

If you choose to participate, Dr. Rockson, and his research study staff will describe all procedures to be followed, as described below.

Each study participant will undergo vascularized lymph node transplantation as a surgical treatment of the arm lymphedema. At the time of surgery, the surgeon will place the BioBridge scaffolds in the surgical site. It is estimated that each participant will receive 10 scaffolds at the time of surgery.

To enter this study, you will have to meet a few requirements that will be evaluated during the Screening Visits and Baseline Visit. If you meet the study entry requirements at the Screening Visits and if you choose to continue, you will have a Baseline Visit which may occur up to 6 weeks after your final Screening Visit. If you still meet the study entry requirements at the Baseline Visit, you may start the study.

S1 Screening Visit

After obtaining your written informed consent, the following activities will be conducted:

- Check to make sure you meet the study requirements.
- Collect demographic information
- Review your medical history.
- Complete physical examination, including measurements of height, weight, BMI, and vital signs (heart rate, blood pressure, respiratory rate, body temperature), weight, and pulse oximetry SpO2.
- Assessment of medications you are currently taking.

- Assessment of any symptoms you are experiencing (as part of the medical history).
- Assessment to determine how lymphedema may be impacting your daily activities (ISL classification scale)
- Caliper measurements for skin thickness of both arms
- Limb volume (LV) measurement #1 of both arms. This is done with a tape measure to measure the circumference of your limb at many different points up and down the limb.
- Bioimpedance measurement will be used to painlessly, non-invasively, and quickly estimate the amount of fluid in your arms (use of electrical current to measure tissue resistance which determines extracellular fluid volume)
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.

S2 Screening Visit
This visit may occur at least 1 day after your S1 visit. The following activities will be conducted:

- Review of study entry requirements
- Weight
- Caliper measurements of skin thickness of both arms
- LV measurement #2 of both arms (if there is a more than a10 percent difference between LV#1 and LV#2 on the affected limb, you will need to return for repeat measurement visit). If your measurements between Visits S2 and S3 agree, you are eligible to continue.
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are experiencing (as part of the medical history).
- Photograph of limbs
- Blood samples collected for research purposes. About 3 tablespoons of blood will be taken from a vein in your arm.
- Two skin punch biopsy specimens (taking small pieces of skin) from the lymphedema-affected limb will be taken.

The biopsy consists of:

- Cleansing of the skin with an antiseptic.

- Local injection of an anesthetic is used for pain control.
- A small cylinder of skin (about the size of a pencil eraser) is removed with a sharp, hollow instrument.
- Two 6-mm punch biopsies from the affected arm will be taken.
- Bleeding is controlled by pressure.
- The biopsy sites will be closed with stitches.
- Short-term antibiotics will be given for two days to reduce the chances of infection from the skin biopsy.
- Stitches will be removed 7-10 days later.
  Post procedure care instructions will be provided.
- Participants will be instructed to NOT wear compression garments for the next 10 days.

S3 Screening Visit (10 days after S2 Visit)
The following activities will be conducted:

- Weight
- Caliper measurements of skin thickness of both arms
- LV measurement #3 of both arms
- Bioimpedance measurement of both arms
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are experiencing (as part of the medical history).
- Stitch removal
- Lymphoscintigraphy (LSG) will be performed. An LSG is a special type of nuclear medicine imaging that provides pictures of the lymphatic system. A small amount of radioactive tracer, technetium 99m-labeled colloid, is injected into the space between the fingers and pictures of the arm are taken as the radioactive tracer is taken into the lymph system.
- Participants will be instructed to resume wearing compression garments. After 3 weeks of wearing compression, participants are eligible to proceed with lymph node transfer surgery.

Surgical care with implantation of the BioBridge will occur between S3 and T1

T1 (Week 12 following surgery)

- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, body temperature, and pulse oximetry SpO2). Blood pressure and heart rate will be measured after 5 minutes in a lying position.
- Caliper measurements of skin thickness of both arms

- LV measurement of both arms
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.

T2 Visit (Week 24 following surgery)

- Caliper measurements of skin thickness of both arms
- LV measurement of both arms
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.
- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, body temperature), weight and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.

T3 Visit (Week 36 following surgery)

- Caliper measurements of skin thickness of both arms
- LV measurement of both arms
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.
- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, and body temperature), weight, and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.

T4 Visit, End of Treatment (Week 48 following surgery) or Early Termination

- Caliper measurements of skin thickness of both arms
- LV measurement of both arms
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.

- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, body temperature), weight and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.
- Photograph of limbs
- Blood samples for research will be taken. About 3 tablespoons of blood will be taken from a vein in your arm.
- Two skin punch biopsy specimens (taking small pieces of skin), from the lymphedema-affected limb will be taken.
- Participants are instructed to NOT wear compression garments for the next 10 days.

T5 Visit (10 days after T4 Visit)

- Caliper measurements of skin thickness of both arms
- LV measurement of both arms
- Bioimpedance measurement of both arms
- Quality of Life questionnaire which asks you to rate how lymphedema is affecting your life. Participants may decline to answer individual questions.
- Measurement of vital signs (heart rate, blood pressure, respiratory rate, and body temperature), weight, and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.
- Stitch removal
- Participants will be instructed to resume wearing compression garments
- Lymphoscintigraphy (LSG) will be performed.

T6 Visit, Surveillance (2 years following surgery)

- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, body temperature), weight and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.

T7 Visit, Surveillance (3 years following surgery)

- Complete physical examination, including measurements of vital signs (heart rate, blood pressure, respiratory rate, body temperature), weight and pulse oximetry SpO2.
- Assessment of medications you are currently taking.
- Assessment of any symptoms you are currently experiencing.

Unscheduled Visits
Study visits not specified in the protocol may be scheduled at the discretion of the investigator.

If you agree to take part in this study, you will be asked to maintain a stable and consistent regimen of self-care, including use of compression garments (a medical support garment that places the most pressure at the wrist and less farther up the arm so that body fluids are pushed toward the heart and not pushed into the hand and forearm) from screening through the T5 visit.

If part of your normal regimen, self-bandaging, use of nighttime compression garments, and intermittent pneumatic compression devices (devices that use several cuffs filled with air that can be placed on the arm from wrist to shoulder and that can be inflated and deflated to pump the venous blood and extra fluid out of the arm) are allowed.

If you no longer want to be in this study and you decide to withdraw consent or if your study doctor decides you should not continue to be in the study, we will arrange for an Early Termination Visit.

Any of your samples which are used in research may result in new products, tests or discoveries. In some instances, these may have potential commercial value and may be developed and owned by the Investigators, Stanford University and/or others. However, donors of samples do not retain any property rights to the materials. Therefore, you would not share in any financial benefits from these products, tests or discoveries.

WOMEN OF CHILDBEARING POTENTIAL
If you are a woman who is able to become pregnant, it is expected that you will use an effective method of birth control to prevent exposing a fetus to any potential unknown risks. If you are pregnant or currently breast feeding, you may not participate in this study. You understand that if you are pregnant, if you become pregnant, or if you are breast-feeding during this study, you or your child may be exposed to an unknown risk.

You may choose birth control methods from the list below:

- Birth control drugs that prevent pregnancy given by pills, shots, or placed on or under the skin.
- Condoms with a cream or gel that kills sperm.
- Diaphragm with a cream or gel that kills sperm.
- Intrauterine device (IUD).

TISSUE SAMPLING FOR RESEARCH

Research using tissues is an important way to try to understand human disease. You have been given this information because the investigators want to include your tissues in a research project and because they want to save the samples for future research. There are several things you should know before allowing your tissues to be studied.

Your tissues will be stored under a study identifier (a letter and number code). Your tissues and blood samples will be stored in a study specific laboratory refrigerator.

You have the right to refuse to allow your tissues to be studied now or saved for future study. You may withdraw from this study at any time. The investigators might retain the identified samples, e.g., as part of your routine clinical care, but not for additional research.

The results of the study of your samples will be used for research purposes only and you will not be told the results of the tests.

_____ I consent to my samples being saved for future research

_____ I do not consent to my samples being saved for future research

Tissue Sampling for Genetic Testing

As part of the analysis on your samples, the investigators will do genetic testing. Genetic research is research that studies genes, including gene characteristics and gene versions that are transmitted by parents to children. Genetic research may include looking at information, such as personal appearance and biochemistry, gene sequences, genetic landmarks, individual and family medical histories, and reactions to medications and responses to treatment. Genetic research raises certain questions about informing you of any results. Possible risks of knowing results include: anxiety; other psychological distress; and the possibility of insurance and job discrimination. A possible risk of not knowing includes being unaware of the need for treatment. These risks can change depending on the results of the research and whether there is a treatment or cure for a particular disease.

Sometimes patients have been required to furnish information from genetic testing for health insurance, life insurance, and/or a job. A Federal law, the Genetic Information Nondiscrimination Act of 2008 (GINA), generally makes it illegal for health insurance companies, group health plans, and employers with

15 or more employees to discriminate against you based on your genetic information.

The results of the study of your samples from this project will be used for research purposes only and you will not be told the results of the tests. If you decide to participate in this part of the study, a blood sample will be collected at baseline (Day 1) for possible future analysis of exploratory genetic polymorphisms (the existence of differences in the nucleotide sequence of a gene from one individual to another) that may be related to lymphedema and/or the mechanism of action of the BioBridge.

The sample will be only identified by a code. Only the study doctor and the coordinator have access to name and information associated with the code. Neither you nor your doctor will be provided with the individual results of the future testing. The testing is investigational and the methods have not been validated. The sample will be kept for a minimum of 5 years or until the testing can be completed, whichever is longer.

Your participation in this assessment is voluntary and declining participation will in no way influence your ability to participate in this study.

☐ I consent to participate in genetic sample collection.

☐ I **do not** consent to participate in genetic sample collection.

Participant Initials: _____ Date:_____

PARTICIPANT RESPONSIBILITIES

As a participant, your responsibilities include:

- Following the instructions of the Protocol Director and study staff.
- Keeping your study appointments. If it is necessary to miss an appointment, please contact the Protocol Director or research study staff to reschedule as soon as you know you will miss the appointment.
- Notifying the Protocol Director or research study staff about any side effects, doctor visits or hospitalizations that you may have.
- Notifying the Protocol Director or research staff if you believe you might be pregnant or gotten your partner pregnant.
- Asking questions as you think of them.
- Telling the Protocol Director or research staff if you change your mind about staying in the study.
- Complete your questionnaires as instructed.

While participating in this research study, you should not take part in any other research project without approval from the Protocol Directors of each study. This is to protect you from possible injury arising from such things as extra blood drawing, extra radiologic imaging, the possible interaction(s) of drugs, or other similar hazards.

WITHDRAWAL FROM STUDY

If you first agree to participate and then you change your mind, you are free to withdraw your consent and discontinue your participation at any time. Your decision will not affect your ability to receive medical care for your disease and you will not lose any benefits to which you would otherwise be entitled. If you decide to withdraw your consent to participate in this study, you should notify Dr. Rockson at [redacted].

There are unknown consequences to withdrawal from the research study. If you decide to withdraw from the study, research personnel will coordinate an orderly withdrawal. You will be asked by the study doctor to have some of the end of study procedures done, an Early Termination Visit and 4 week follow-up visit.

The Protocol Director may also withdraw you from the study without your consent for one or more of the following reasons:

- Failure to follow the instructions of the Protocol Director and study staff.
- You are not able to attend study visits as required.
- The Protocol Director decides that continuing your participation could be harmful to you.
- Pregnancy
- You need treatment not allowed in the study.
- The study is cancelled.
- Other administrative reasons.
- Unanticipated circumstances.

POSSIBLE RISKS, DISCOMFORT, AND INCONVENIENCES

There are risks, discomforts, and inconveniences associated with any research study. These deserve careful thought. You should talk with the Protocol Director if you have any questions.

BioBridge scaffold

BioBridge™ is a thread-like made up of collagen, a normal supporting protein of the skin and other structures in the body. BioBridge is a device made from highly purified, medical-grade collagen derived from the tissues of pigs. There is no anticipated risk or toxicity associated with its use during surgical implantation. The long-term risks of the BioBridge implanted in lymphatic tissue in humans are

unknown. The BioBridge is gradually broken down by the body over 6-9 months after implantation, and it eventually disappears completely. However, because the BioBridge is a foreign material that is implanted at the surgical site, the possibility exists that it may increase the risk of infection.

There are no human safety studies related to the use of the BioBridge as a surgical adjunct in individuals with lymphedema. The purpose of this study is evaluate potential benefits and risks of the use of the BioBridge. Since the risk is unknown, this study will be performed with and Investigational Device Exemption (IDE), under the auspices of the Food and Drug Administration (FDA). The results of the study will be reported directly to the FDA.

Xylocaine with epinephrine
Xylocaine with epinephrine is a local anesthetic agent. Potential risks include: feeling anxious, shaky, dizzy, restless, or depressed; drowsiness, vomiting, ringing in your ears, blurred vision; confusion, twitching, seizure (convulsions); fast heart rate, rapid breathing, feeling hot or cold; weak or shallow breathing, slow heart rate, weak pulse; or feeling like you might pass out. Less serious side effects include: mild bruising, redness, itching, or swelling where the medication was injected; mild dizziness; nausea; numbness in places where the medicine is accidentally applied.

Technetium 99m sulfur colloid
Technetium 99m sulfur colloid is a nuclear imaging agent. The most frequently reported adverse reactions include rash, allergic reaction, hives, allergic shock, and low blood pressure. Less frequently reported adverse reactions are fatal cardiopulmonary arrest, seizures, shortness of breath, wheezing, abdominal pain, flushing, nausea, vomiting, itching, fever, chills, perspiration, numbness, and dizziness. Local injection site reactions, including burning, blanching, redness, swelling, and scarring, have also been reported.

Cephalexin
Cephalexin is an antibiotic. Possible adverse effects include the following:

- Central nervous system: Agitation, confusion, dizziness, fatigue, hallucinations, headache
- Dermatologic: allergic swelling, severe rash, Stevens-Johnson syndrome, toxic epidermal necrolysis, hives
- Gastrointestinal: Abdominal pain, diarrhea, stomach burning, gastritis, nausea, colitis, vomiting
- Genitourinary: Genital itching, genital thrush, vaginitis, vaginal discharge
- Hematologic: elevated white blood cell counts
- Hepatic: abnormal liver function, jaundice, transient hepatitis

- Neuromuscular & skeletal: joint aching and swelling, joint disorder
- Renal: kidney inflammation
- Miscellaneous: Allergic reactions

Lymphoscintigraphy (LSG) will be performed both, as part of your normal care for surgery (arm), and for research purposes (both arms). A LSG is a special type of nuclear medicine imaging that provides pictures of the lymphatic system. A small amount of radioactive tracer, technetium 99m-labeled colloid, is injected into the space between the fingers and pictures of the arm are taken as the radioactive tracer is taken into the lymph system. LSG, performed before and after surgery, involves exposure to radiation. This radiation exposure is not necessary for your medical care and is for research purposes only. The additional amount of radiation exposure is about 7 mSv, which is approximately equal to 14% of the limit that radiation workers (for example, a hospital x-ray technician) are allowed to receive in one year. This amount of radiation involves minimal risk and is necessary to obtain the research information desired.

Skin Punch Biopsy:
Skin punch biopsies, two from the lymphedema-affected arm will be taken before and after you receive the BioBridge. There is a brief prick and stinging as the anesthetic is injected. You may lose a very small amount of blood during the biopsy procedures. Bleeding is controlled by pressure. Afterwards, the site may bleed or leak serous fluid (pale yellow, thin, transparent fluid) and the area may be tender. There may be bruising. There will be a small scar where the biopsies were taken, which may fade with time. The presence of lymphedema may slightly delay healing at the biopsy site. Theoretically, slow healing may increase your chances of infection. There is a small chance of infection. To reduce the risk of potential infection, you will be prescribed a short course of preventive antibiotics after the biopsy.

Blood Sampling:
Taking your blood sample may cause some pain, redness, or bruising at the site where blood was drawn. In addition, lightheadedness, fainting, or an infection (rare) is possible.

Bioimpedance:
Placement of and/or removing the pads may cause skin irritation.

Calipers:
Using the calipers may cause some discomfort due to the pinching of your skin.

Time and Travel:
If you join the study, you will be asked to come to the Stanford Hospital and Clinics or Stanford CTRU for your study evaluations, including blood tests and imaging tests. There may be as many as ~12 study visits in this study.

Joining this study may involve risks that are currently unforeseeable. Your condition may not get better or may get worse during this study.

POTENTIAL BENEFITS

Your lymphedema may reduce while you are in this study and this may help the discomfort and various other symptoms associated with your disease; however, this cannot be promised and there may be no benefit to you for your participation in this study.

Information gained from this study is very likely to advance our understanding of how the BioBridge may be able to treat lymphedema. This may be of potential value to you as it may widen the range of therapies for your lymphedema beyond physical therapy. The results of this study may help patients with lymphedema in the future.

We cannot and do not guarantee or promise that you will receive any benefits from this study.

ALTERNATIVES

If you decide not to enter this study, there is standard care available to you, including manual lymphatic drainage, bandaging, skin care, exercises and compression sleeves, without participating in this study. You may be considered to be a candidate for the standard surgical procedure, without the additional use of the BioBridge. You may also be eligible for other clinical trials here at Stanford or at other institutions. The study doctor will discuss these with you. You do not have to be in this study to be treated for lymphedema.

PARTICIPANT'S RIGHTS

You should not feel obligated to agree to participate. Your questions should be answered clearly and to your satisfaction. If you decide not to participate, tell the Protocol Director.

You will be told of any important new information that is learned during the course of this research study, which might affect your condition or your willingness to continue participation in this study.

CLINICALTRIALS.gov

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

CONFIDENTIALITY

The results of this research study may be presented at scientific or medical meetings or published in scientific journals. Your identity and/or your personal health information will not be disclosed except as authorized by you or as required by law. However, there is always some risk that even de-identified information might be re-identified.

Participant information may be provided to Federal and other regulatory agencies as required. The Food and Drug Administration (FDA), for example, may inspect research records and learn your identity if this study falls within its jurisdiction.

The purpose of this research study is to obtain data or information on the safety and effectiveness of the BioBridge; the results may be provided to the Food and Drug Administration and other federal and regulatory agencies as required.

CERTIFICATE OF CONFIDENTIALITY

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. The researchers with this Certificate may not disclose or use information, documents, or biospecimens that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other action, suit, or proceeding, or be used as evidence, for example, if there is a court subpoena, unless you have consented for this use. Information, documents, or biospecimens protected by this Certificate cannot be disclosed to anyone else who is not connected with the research except, if there is a federal, state, or local law that requires disclosure (such as to report child abuse or communicable diseases but not for federal, state, or local civil, criminal, administrative, legislative, or other proceedings, see below); if you have consented to the disclosure, including for your medical treatment; or if it is used for other scientific research, as allowed by federal regulations protecting research subjects.

The Certificate cannot be used to refuse a request for information from personnel of the United States federal or state government agency sponsoring the project that is needed for auditing or program evaluation by the NIH which is funding this project or for information that must be disclosed in order to meet the requirements of the federal Food and Drug Administration (FDA). You should understand that a Certificate of Confidentiality does not prevent you from

voluntarily releasing information about yourself or your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide consent to allow the researchers to release it.

The Certificate of Confidentiality will not be used to prevent disclosure for any purpose you have consented to in this informed consent document including research data obtained, such as information relating to your lymphedema diagnosis and treatment, results of bioimpedance, physical exams, blood tests, name and date of birth, pregnancy tests, height, weight vital signs, imaging, EKG, and laboratory results (collected during study), information about any side effects you may experience, and other medications you may be taking.

PRIMARY CARE DOCTOR NOTIFICATION

If you agree to participate in this study and if you have a primary care doctor, it is recommended that your primary care doctor be informed about your participation in this study. You can share the information with your primary care doctor or your primary care doctor may call the study doctor/research team.

Authorization to Use Your Health Information for Research Purposes

Because information about you and your health is personal and private, it generally cannot be used in this research study without your written authorization. If you sign this form, it will provide that authorization. The form is intended to inform you about how your health information will be used or disclosed in the study. Your information will only be used in accordance with this authorization form and the informed consent form and as required or allowed by law. Please read it carefully before signing it.

What is the purpose of this research study and how will my health information be utilized in the study?

This study is designed to investigate whether the outcome of lymph node transfer surgery for arm lymphedema can be improved by the use of the BioBridge at the time of the surgery. The use of the BioBridge is intended to stimulate and accelerate the growth of lymphatic vessels into the transplanted lymph node. We will provide the BioBridge to eligible participants prior to FDA approval of the device for this indication. Since BioBridge is an investigational device, information regarding your medical care related to your lymphedema diagnosis may be shared with the Federal Drug Administration (FDA).

Do I have to sign this authorization form?

You do not have to sign this authorization form. But if you do not, you will not be able to participate in this research study, including receiving any research-related treatment. Signing the form is not a condition for receiving any medical care outside the study.

If I sign, can I revoke it or withdraw from the research later?

If you decide to participate, you are free to withdraw your authorization regarding the use and disclosure of your health information (and to discontinue any other participation in the study) at any time. After any revocation, your health information

will no longer be used or disclosed in the study, except to the extent that the law allows us to continue using your information (e.g., necessary to maintain integrity of research). If you wish to revoke your authorization for the research use or disclosure of your health information in this study, you must write to:
Dr. Stanley Rockson
Falk Cardiovascular Research Center
300 Pasteur Drive

Stanford, California 94305-5406

What Personal Information Will Be Used or Disclosed?
Your health information related to this study, may be used or disclosed in connection with this research study, including, but not limited to, information relating to your lymphedema diagnosis and treatment, results of bioimpedance, physical exams, blood tests, name and date of birth, pregnancy tests, height, weight vital signs, imaging, EKG, and laboratory results (collected during study), information about any side effects you may experience, and other medications you may be taking

Who May Use or Disclose the Information?
The following parties are authorized to use and/or disclose your health information in connection with this research study:

- The Protocol Director, Dr. Stanley Rockson
- The Stanford University Administrative Panel on Human Subjects in Medical Research and any other unit of Stanford University as necessary
- Research Staff

Who May Receive or Use the Information?
The parties listed in the preceding paragraph may disclose your health information to the following persons and organizations for their use in connection with this research study:

- The Office for Human Research Protections in the U.S. Department of Health and Human Services
- Fibralign Corporation (manufacturer of the BioBridge)
- The Food and Drug Administration
- National Institutes of Health
- National Cancer Institute

Your information may be re-disclosed by the recipients described above, if they are not required by law to protect the privacy of the information.

When will my authorization expire?
Your authorization for the use and/or disclosure of your health information will end on 12/31/2050 or when the research project ends, whichever is earlier.

Will access to my medical record be limited during the study?
To maintain the integrity of this research study, you may not have access to any health information developed as part of this study until it is completed. At that point, you would have access to such health information if it was used to make a medical or billing decision about you (e.g., if included in your official medical record).

_____ _____
Signature of Adult Participant Date

_____
Print Name of Adult Participant

FINANCIAL CONSIDERATIONS

Payment

You will not be paid to participate in this research study.

Costs

If you participate in this study, the study will pay for those services, supplies, procedures, and care associated with the study that are not a part of your routine medical care. However, there may be additional costs to you. These include basic expenses like transportation and the personal time it will take to come to the study visits.

You and/or your health insurance must pay for services, supplies, procedures, and care that are required during this study for routine medical care. **You will also be responsible for any co-payments and/or deductibles as required by your insurance.** Participation in this study is not a substitute for health insurance.

Fibralign Corporation is providing financial support and/or material for this study.

The National Institutes of Health and National Cancer Institute are providing financial support for this study, facility and staff where part or all of the study is taking place.

COMPENSATION FOR RESEARCH-RELATED INJURY

All forms of medical diagnosis and treatment – whether routine or experimental – involve some risk of injury. In spite of all precautions, you might develop medical complications from participating in this study. If such complications arise, the Protocol Director and the research study staff will assist you in obtaining appropriate medical treatment. In the event that you have an injury or illness that is directly caused by your participation in this study, care will be provided to you. You will **not** be responsible for any of these costs.

If you receive Medicare benefits, and if the sponsor of this study pays for any study-related treatment, complications or injuries, personal information about you, your treatment, and your participation in this study will be provided to the sponsor, who is required by law to provide it to Medicare.

You do not waive any liability rights for personal injury by signing this form.

CONTACT INFORMATION

Questions, Concerns, or Complaints:
If you have any questions, concerns or complaints about this research study, its procedures, risks and benefits, or alternative courses of treatment, you should ask the Protocol Director, Dr. Rockson at [redacted]. You should also contact him at any time if you feel you have been hurt by being a part of this study.

Appointment Contact:
If you need to change your appointment, please contact the Research Coordinator at [redacted].

Alternate Contact:
If you cannot reach the Protocol Director, please contact, RN at [redacted].

Independent Contact:
If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about the research or your rights as a participant, please contact the Stanford Institutional Review Board (IRB) to speak to someone independent of the research team [redacted] or toll free at 1-[redacted]. You can also write to the: Stanford IRB, Stanford University, [redacted]

EXPERIMENTAL SUBJECT'S BILL OF RIGHTS

As a research participant you have the following rights. These rights include but are not limited to the participant's right to:

- be informed of the nature and purpose of the experiment;
- be given an explanation of the procedures to be followed in the medical experiment, and any drug or device to be utilized;
- be given a description of any attendant discomforts and risks reasonably to be expected;
- be given an explanation of any benefits to the subject reasonably to be expected, if applicable;
- be given a disclosure of any appropriate alternatives, drugs or devices that might be advantageous to the subject, their relative risks and benefits;
- be informed of the avenues of medical treatment, if any available to the subject after the experiment if complications should arise;
- be given an opportunity to ask questions concerning the experiment or the procedures involved;
- be instructed that consent to participate in the medical experiment may be withdrawn at any time and the subject may discontinue participation without prejudice;
- be given a copy of the signed and dated consent form; and

- be given the opportunity to decide to consent or not to consent to a medical experiment without the intervention of any element of force, fraud, deceit, duress, coercion or undue influence on the subject's decision.

May we contact you about future studies that may be of interest to you?
____ Yes ____ No

Signing your name means you agree to be in this study and that you will receive a copy of this signed and dated consent form.

_____ _____
Signature of Adult Participant Date

_____
Print Name of Adult Participant

_____ _____
Signature of Person Obtaining Consent Date

_____
Print Name of Person Obtaining Consent