



Queensland
Government

Magnetic Resonance Imaging (MRI) Cardiac Stress Study Consent

Facility:

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth:

Sex: M F I

A. Does the patient have capacity to provide consent?

Complete for ADULT patient only

- Yes → GO TO section B
 No → COMPLETE section A

You must adhere to the Advance Health Directive (AHD), or if there is no AHD, the consent obtained from a substitute decision-maker in the following order: Category 1. Tribunal-appointed guardian; 2. Enduring Power of Attorney; or 3. Statutory Health Attorney.

Name of substitute decision-maker:

Category of substitute decision-maker:

Complete for CHILD/YOUNG PERSON patient only

- Yes Although the patient is a child/young person, the patient may be capable of giving informed consent and having sufficient maturity, understanding and intelligence to enable them to fully understand the nature, consequences and risks of the proposed procedure and the consequences of non-treatment – ‘Gillick competence’ (*Gillick v West Norfolk and Wisbech Area Health Authority* [1986] AC 112)
 → GO TO section B
- No Parent/legal guardian/other person* with parental rights and responsibilities to provide consent and complete this form
 → COMPLETE section A

*Formal arrangements, such as parenting/custody orders, adoption, or other formally recognised carer/guardianship arrangements. Refer to the Queensland Health ‘Guide to Informed Decision-making in Health Care’ and local policy and procedures. Complete the source of decision-making authority as applicable below.

If applicable, source of decision-making authority (tick one):

- Court order → Court order verified
 Legal guardian → Documentation verified
 Other person → Documentation verified

Name of parent/legal guardian/other person:

Relationship to child/young person:

B. Is an interpreter required?

- Yes No

If yes, the interpreter has:

- provided a sight translation of the informed consent form in person
 translated the informed consent form over the telephone

It is acknowledged that a verbal translation is usually a summary of the text on the form, rather than word-by-word translation.

Name of interpreter:

Interpreter code:

Language:

C. Patient OR substitute decision-maker OR parent/legal guardian/other person confirms the following procedure(s)

I confirm that the referring doctor/clinician has explained that I have been referred for the following procedure:

Magnetic Resonance Imaging (MRI) cardiac stress study: Yes No

With the use of medication:

Adenosine: Yes No

Dobutamine: Yes No

Name of referring doctor/clinician:

D. Risks specific to the patient in having a magnetic resonance imaging (MRI) cardiac stress study

(Doctor/clinician to document additional risks not included in the patient information sheet):

E. Risks specific to the patient in not having a Magnetic Resonance Imaging (MRI) cardiac stress study

(Doctor/clinician to document specific risks in not having a Magnetic Resonance Imaging (MRI) cardiac stress study):

F. Alternative procedure options

(Doctor/clinician to document alternative procedure not included in the patient information sheet):

DO NOT WRITE IN THIS BINDING MARGIN

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SW9569

MRI CARDIAC STRESS STUDY CONSENT



**Queensland
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Magnetic Resonance Imaging (MRI) Cardiac Stress Study Consent

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Family name:

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Date of birth:

Sex: M F I

G. Information for the doctor/clinician

The information in this consent form is not intended to be a substitute for direct communication between the doctor/clinician and the patient *OR* substitute decision-maker *OR* parent/legal guardian/other person.

I have explained to the patient *OR* substitute decision-maker *OR* parent/legal guardian/other person the contents of this form and am of the opinion that the information has been understood.

Name of doctor/clinician:

Designation:

Signature:

Date:

H. Patient *OR* substitute decision-maker *OR* parent/legal guardian/other person consent

I acknowledge that the doctor/clinician has explained:

- the 'Magnetic Resonance Imaging (MRI) Cardiac Stress Study' patient information sheet
- the medical condition and proposed treatment, including the possibility of additional treatment
- the specific risks and benefits of the procedure
- the prognosis, and risks of not having the procedure
- alternative procedure options
- that there is no guarantee the procedure will improve the medical condition
- that if a life-threatening event occurs during the procedure:
 - an adult patient will be treated based on documented discussions (e.g. AHD or ARP [Acute Resuscitation Plan])
 - a child/young person's health care will be provided in accordance with good clinical practice and in the best interests of the patient
- that a doctor/clinician other than the consultant/specialist may assist with/conduct the clinically appropriate procedure; this may include a doctor/clinician undergoing further training under supervision
- that if the doctor/clinician wishes to record video, audio or images during the procedure where the recording is not required as part of the treatment (e.g. for training or research purposes), I will be asked to sign a separate consent form. If I choose not to consent, it will not adversely affect my access, outcome or rights to medical treatment in any way.

I was able to ask questions and raise concerns with the doctor/clinician.

I understand I have the right to change my mind regarding consent at any time, including after signing this form (*this should be in consultation with the doctor/clinician*).

I/substitute decision-maker/parent/legal guardian/other person have received the following consent and patient information sheet(s):

- 'Magnetic Resonance Imaging (MRI) Cardiac Stress Study'

On the basis of the above statements,

1) I/substitute decision-maker/parent/legal guardian/other person consent to having a Magnetic Resonance Imaging (MRI) cardiac stress study.

Name of patient/substitute decision-maker/parent/legal guardian/other person:

Signature:

Date:

If the patient is a child/young person:

- I am not aware of any legal or other reason that prevents me from providing unrestricted consent for this child/young person for this procedure (*not applicable if the child/young person is Gillick competent and signs this form*).

2) Student examination/procedure for professional training purposes:

For the purpose of undertaking training, a clinical student(s) may observe medical examination(s) or procedure(s) and may also, subject to patient *OR* substitute decision-maker *OR* parent/legal guardian/other person consent, assist with/conduct an examination or procedure on a patient while the patient is under anaesthetic.

I/substitute decision-maker/parent/legal guardian/other person consent to a clinical student(s) undergoing training to:

- observe examination(s)/procedure(s) Yes No
- assist with examination(s)/procedure(s) Yes No
- conduct examination(s)/procedure(s) Yes No

Magnetic Resonance Imaging (MRI) Cardiac Stress Study

Adult and Child/Young Person | Informed consent: patient information

A copy of this patient information sheet should be given to the patient or substitute decision-maker or parent/legal guardian/other person of a child or young person to read carefully and allow time to ask any questions about the procedure. The consent form and patient information sheet should be included in the patient's medical record.

In this information sheet, the word 'you' means the patient unless a substitute decision-maker, parent, legal guardian or other person is providing consent on behalf of the patient, in which case the word 'you' means the substitute decision-maker, parent, legal guardian or other person when used in the context of the person providing consent to the procedure.



1. What is a Magnetic Resonance Imaging (MRI) cardiac stress study and how will it help me?

A Magnetic Resonance Imaging (MRI) scan uses a strong magnetic field, radio waves and a computer to produce images of the body. MRI does not use x-rays or ionising radiation. For soft tissues, MRI images are generally more detailed than x-rays and other scans.

A cardiac MRI scan takes images of your heart. It looks at how well your heart is beating and can show if your heart muscle has been damaged or has any scarring.

During an MRI cardiac stress study, you will be given a short acting medicine to make your heart beat faster and cause stress on the heart muscle. This will provide information about how blood is supplied to your heart.

MRI contrast

Some MRI scans use MRI contrast to allow internal organs and structures to be seen more clearly and/or for better images, that may help with diagnosis. Not everyone can have contrast. If your radiologist (doctor) wants you to be given contrast, they will ask you some questions first to check it is safe for you. MRI contrast is a colourless liquid that is injected into your blood stream. MRI contrast is not a dye. It does not stain the inside of your body. It is used during MRI scans to allow your internal organs and structures to be seen more clearly. The radiologist may want to use MRI contrast to see more detail on the images, and to help with your diagnosis.



Image: Person having a cardiac MRI scan.
ID: 2082702211. www.shutterstock.com

MRI safety

- No one is permitted into the scanning room until they have answered a series of safety questions and taken off all removable metal objects from their body (e.g. jewellery, piercings, glasses and mobile phones). Your removable metal objects and personal items must be left outside the MRI scan room. You will be allocated a place to store your belongings safely.
- You will be required to change into a hospital gown.
- It is important you answer the safety questions as correctly as possible to avoid injury.

- If you have an implant, foreign body (e.g. shrapnel) or inserted medical device, MRI staff will work to determine if it is safe for you to go into the strong magnetic field of an MRI scanner.
 - If you have an implant, foreign body or device that is not safe to go into an MRI scanner, you may not be able to have an MRI scan.
 - If you have an implant or device that is safe to enter a strong magnetic field under certain conditions, MRI staff will determine if your device or implant is safe to go into the MRI scanner at this hospital.
 - For some devices and implants, it may not be possible to have an MRI scan at one hospital, while it is possible at another hospital. This is because the strength of the magnetic field is not the same for all MRI scanners. The MRI scanner at one hospital might be able to meet the special conditions of your implant or device, whereas the MRI scanner at another hospital cannot.
 - MRI safety also depends on the risk versus benefit for each individual; no one will be refused an MRI without a thorough review.

Preparing for the procedure

The Medical Imaging department will give instructions on how to prepare for your procedure. Your procedure might be delayed if you don't follow all of your preparation requirements.

Medical imaging staff will notify you beforehand if you are required to stop taking any medications.

Please tell the doctor/clinician if you are breastfeeding or pregnant, or suspect that you may be pregnant.

You may be asked to not eat or drink any foods containing caffeine (tea/coffee, cola drinks, chocolate etc.) and not to smoke in the hours leading up to your appointment. Caffeine and nicotine will interfere with the test results.

A doctor/clinician will monitor you while we administer the medication (Dobutamine or Adenosine) to stress your heart.

The medication can cause:

- headache
- nausea
- restlessness
- muscle cramps or weakness
- chest pain
- changes in your heartbeat
- shortness of breath
- dizziness
- palpitations
- facial flushing
- light headedness
- a feeling of apprehension.

These side effects usually last for only 3–4 minutes and will go away within 10 seconds of the medication infusion being stopped.

Some people find that being inside the light filled, open-ended tunnel of the MRI machine makes them uncomfortable. If you feel uncomfortable, let the staff know as there are many ways in which they can help you.

For a parent/legal guardian/other person of a patient having an MRI cardiac stress study

To prepare the patient for this procedure and to ease their concerns, tell them what they can expect to happen during the procedure. This information sheet will assist you with this.

We welcome your help and support in preparing the patient for the procedure and in explaining why it's so important to lie still.

At the discretion of the procedure staff a parent/adult (unless pregnant) may be invited into the procedure room to support the patient. MRI staff will need to determine that this support person does not have an implant, foreign object or device that is not safe to go into an MRI scan room.

Other children are not allowed into the procedure room, and they must be supervised at all times by another parent/adult.

During the procedure

Before you are taken into the scanning room:

- An Electrocardiogram (ECG) may be taken. This is a recording of your heartbeat.
- An intravenous (I.V.) cannula is a small plastic tube that will be inserted into a vein, usually in your hand or arm. This is for medication or contrast required during the procedure.
- Your pulse, blood pressure and heartbeat are monitored during the study. If there are any concerns, staff will pause the study and review the information available.

The procedure is performed in 3 parts:

1. **MRI cardiac scan** – MRI images are taken of your heart
2. **Your heart is ‘stressed’**
3. **Stress study** – More MRI images are taken of your heart after it has been ‘stressed’.

The whole procedure will take from 1–2 hours.

Part 1: MRI cardiac scan

MRI-safe ECG sticky dots and leads will be placed on your chest.

The MRI itself should not cause you any pain. You may feel some vibrations and a warm sensation during your MRI scan.

The MRI scanner is usually very noisy. You may hear thumping and knocking sounds. You will be given headphones and possibly earplugs to protect your hearing.

MRI staff will not be in the room with you during the scan, but they will be able to see you and talk to you between images. Before the scan starts, you will be given a call button for you to press if there is an urgent concern.

You will be required to hold your breath, multiple times, for about 10–15 seconds each time. The MRI staff will explain and practice this with you prior to starting the scan.

During the MRI scan we will take lots of images. This means you will need to keep still for a long time while the images are being taken, so they are not blurry.

Part 2: The heart is ‘stressed’ using a medication

You will be given a medication (either Dobutamine or Adenosine) through your I.V. cannula.

Dobutamine is a medication that reproduces the effects of exercise on the heart. It will temporarily increase the blood flow to the heart.

Adenosine is a medication used to open/dilate the vessels of the heart to mimic the effect of exercise on the heart.

When the medication is injected, you will feel the side effects for 3–4 minutes (listed on pages 4 and 6).

Part 3: Stress study

Additional MRI scans will be taken to look at how your heart is beating after the medication is given. MRI contrast may also be injected to show the blood supply to the heart muscles.

At the end of the study, and once outside the MRI scanner room, another ECG may be performed.

The I.V. cannula will be removed, if it is no longer required.



2. What are the risks?

In recommending the procedure, the doctor/clinician believes that the benefits to you from having the procedure exceed the risks involved. There are risks and possible complications associated with the procedure which can occur with all patients – these are set out below. There may also be additional risks and possible complications specific to your condition and circumstances which the doctor/clinician will discuss with you. If you have any further concerns, please ensure that you raise them with the doctor/clinician prior to giving consent to the procedure.

(Doctor/clinician to cross out and initial any statements in this section that are not relevant to this patient's procedure)

Common risks and complications of the medications

- Adenosine:
 - chest or stomach discomfort
 - flushing
 - headache
 - shortness of breath
 - nausea
- Dobutamine:
 - chest or stomach discomfort
 - low blood pressure
 - heart arrhythmias (feel your heart beating with an unusual rhythm)
 - palpitations (feel your heart beating very quickly or heavily)
 - fainting
 - a feeling of urgency
 - chills.

Uncommon risks and complications of the medications

- Adenosine:
 - palpitations
 - dizziness
 - heart arrhythmias
- Dobutamine:
 - anxiety
 - shortness of breath
 - headache
 - nausea
 - tremor (shakiness).

Rare risks and complications of the medications

- Adenosine:
 - heart attack
 - bronchospasm (tightening of the airways)
 - death
- Dobutamine:
 - heart attack
 - death.

If serious complications occur, admission to hospital may be required. Please discuss these with the doctor/clinician.

Risks of the procedure include but are not limited to the following:

Common risks and complications

- minor pain, bruising and/or infection from the I.V. cannula
- *(MRI contrast only)* gadolinium is the key component of the contrast material most often used in MRI scans. Small amounts of gadolinium may remain in tissues of the body, including the liver, bone and brain. This is called gadolinium retention and its effects on the body are an area of ongoing research.

Uncommon risks and complications

- the procedure may not be possible due to medical and/or technical reasons
- an allergy to the injected drugs used requiring further treatment
- injected contrast may infiltrate the skin and tissues. This may require treatment. In very rare cases, surgery could be required if the skin breaks down.

Rare risks and complications

- *(MRI contrast only)* allergic reactions rarely occur but when they do, they usually occur within the first hour with most happening in the first 5 minutes. The reactions vary from:
 - mild: headache, brief nausea, dizziness, hives, rash and itching
 - moderate: widespread hives, headaches, facial swelling, vomiting, shortness of breath
 - severe: severe reactions are rare but include life-threatening heart palpitations, very low blood pressure, throat swelling, seizures and/or cardiac arrest
- *(MRI contrast only)* Nephrogenic Systemic Fibrosis (NSF) can occur to those who have severe renal impairment and are given MRI contrast. Please refer to the section on precautions for kidney function to learn more about NSF
- thermal burns are extremely rare due to precautionary measures taken by MRI staff
- injury, severe injury or death because of an undeclared metal implant or if an implant is scanned without the necessary conditions for safety
- death because of this procedure is very rare.

Precautions

MRI contrast cannot be given to some people.

If the radiologist (doctor) thinks it would be useful to give you MRI contrast for your MRI scan, you will be asked some questions to see if there are any reasons why you should not be given contrast.

If it is not safe for you to have contrast, the radiologist might decide to do an MRI scan without contrast or do a different test.

Kidney function

MRI contrast is removed from the blood by the kidneys through the urine.

We may need to do a blood test to find out the level of your kidney function before we consider giving you MRI contrast.

Nephrogenic Systemic Fibrosis (NSF) is an extremely rare condition that results in scarring or thickening of the skin and tissues throughout the body. It can occur days to years following exposure to gadolinium. It is severely disabling and often fatal.

As NSF has almost only ever been seen in people with severely reduced kidney function and those on dialysis, every effort is made to avoid giving gadolinium to these patients. However, sometimes there is no good alternative and contrast is required to help rapidly and effectively diagnose serious organ and life-threatening diseases so effective treatment can be started. It is reasonable for almost all patients with kidney disease and those on dialysis to receive contrast in these circumstances.

What are the risks of not having an MRI cardiac stress study?

There may be adverse consequences for your health if you choose not to have the proposed procedure. Please discuss these with the referring doctor/clinician.

If you choose not to have the procedure, you will not be required to sign a consent form.

If you have signed a consent form, you have the right to change your mind at any time prior to the procedure. Please contact the doctor/clinician to discuss.



3. Are there alternatives?

Making the decision to have a procedure requires you to understand the options available. Please discuss any alternative procedure options with your referring doctor/clinician before signing the consent form.



4. What should I expect after the procedure?

You may be asked to wait in the Medical Imaging department under observation for up to 30 minutes after the procedure.

Your doctor/clinician will talk to you about what to expect after your procedure and upon discharge from hospital.

You will receive the results of your scan from your treating team at your next follow-up appointment. Please make an appointment if you do not already have one.



5. Who will be performing the procedure?

Radiographers, doctors, nuclear medicine technologists, sonographers, nurses, and medical imaging assistants make up the medical imaging team. All or some of these professionals may be involved in your procedure.

Staff from the Cardiology department may also be present during your procedure.

A doctor/clinician other than the consultant/specialist may assist with/conduct the clinically appropriate procedure. This could include a doctor/clinician undergoing further training, however all trainees are supervised according to relevant professional guidelines.

If you have any concerns about which doctor/clinician will be performing the procedure, please discuss this with the doctor/clinician.

For the purpose of undertaking professional training in this teaching hospital, a clinical student(s) may observe medical examination(s) or procedure(s) and may also, subject to your consent, assist with/conduct an examination or procedure on you.

You are under no obligation to consent to an examination(s) or a procedure(s) being undertaken by a clinical student(s) for training purposes. If you choose not to consent, it will not adversely affect your access, outcome or rights to medical treatment in any way.

For more information on student care, please visit www.health.qld.gov.au/consent/students.



6. Where can I find support or more information?

Hospital care: before, during and after is available on the Queensland Health website www.qld.gov.au/health/services/hospital-care/before-after where you can read about your healthcare rights.

Further information about informed consent can be found on the Informed Consent website www.health.qld.gov.au/consent. Additional statewide consent forms and patient information sheets are also available here.

Staff are available to support patients' cultural and spiritual needs. If you would like cultural or spiritual support, please discuss this with your doctor/clinician.

Queensland Health recognises that First Nations People's culture must be considered in the patient's clinical care to ensure their holistic health and individual needs are met.



7. Questions

Please ask the doctor/clinician if you do not understand any aspect of this patient information sheet or if you have any questions about your proposed procedure.

If you have further questions prior to your appointment, please contact the Medical Imaging department via the main switchboard of the facility where your procedure is booked.



8. Contact us

In an emergency, call Triple Zero (000).

If it is not an emergency, but you have concerns, contact 13 HEALTH (13 43 25 84), 24 hours a day, 7 days a week.