

Your child may be part of a study

Currently enrolling



Very rarely, patients with heart disease have a complication called cardiac arrest, in which the heart stops beating. In addition to administering CPR and medications, we sometimes have to rescue patients using a heart-lung bypass machine called ECMO.



Patients who require emergency ECMO as a treatment for cardiac arrest have a high incidence of injury to the brain and other organs, even when receiving all available treatments.



We are testing a new treatment developed at Boston Children's Hospital that may significantly decrease the injury that occurs in these patients. If a patient has a cardiac arrest requiring emergency ECMO and the doctor thinks it is safe, he or she may or may not receive hydrogen treatment. The chance of getting hydrogen is 60%.

The patient's safety will continue to be our top priority.

If you do not want to participate in this study, you may opt out by:

- Filling out the form using the QR code below
- Emailing the study team at hydrogenfast@childrens.harvard.edu
- Calling a study team member at 857-299-4233

To learn more, please visit www.bostonchildrens.org/hydrogenFAST/



To opt out, use this QR code.



To email the study team, use this QR code.



To visit our website, use this QR code.





Frequently Asked Questions

1. What is ECPR?

Although very rare, sometimes a patient's heart stops beating, an emergency called cardiac arrest. This represents a life-threatening situation that must be treated immediately. When CPR and medications do not restore blood flow, sometimes an emergency heart-lung bypass machine called ECMO is used to rescue patients (this is called ECPR). Unfortunately, blood flow to the brain and other organs can be interrupted during ECPR, causing severe brain damage or death.

2. What is this study about?

We are testing a new treatment that may protect the brain and other organs from these interruptions in blood flow. Hydrogen is the most abundant molecule in the universe and is present in low concentrations in the air we breathe. Breathing higher amounts of hydrogen has been shown to decrease brain injury in animal models of cardiac arrest. It works by absorbing some of the molecules that directly damage organs. When we studied the same dose of hydrogen in eight healthy people, we did not identify any side effects.

3. What will happen if I/my child is enrolled in the trial?

If a patient experiences a cardiac arrest in the cardiac intensive care unit at Boston Children's Hospital, your care team may enroll them in the trial. If they are enrolled in the trial, there is a 60% chance they would receive hydrogen, which would be given through the ventilator and ECMO machine for 72 hours. Patients who receive hydrogen will also receive all of the care they would otherwise receive, and care will not be impacted in any other way. You will not be charged for hydrogen treatment, which is funded by a grant from the National Institutes of Health.

4. Do I need to do anything to participate in this trial?

No. If a patient does not 'opt out' of the trial and they experience a cardiac arrest that requires ECPR, they will most likely be enrolled in the trial.

5. What should I do if I do not want to participate in the trial, or if I have more questions?

If you have any questions, or if you would like to opt-out of the trial, please feel free to call a member of the Study Team at 857-299-4233 or via email at hydrogenfast@childrens.harvard.edu. Rest assured that no aspect of care will be affected by your decision to either participate or opt-out of the trial.

If your child is enrolled in the trial, you will have the option to have them removed from the trial at any time after enrollment at your request.

If you have any further questions, please visit our website
bostonchildrens.org/hydrogenfast/,
email us at hydrogenfast@childrens.harvard.edu,
or call us at 857-299-4233.