# The Recognition of STEMI by Paramedics and the Effect of Computer Interpretation (RESPECT) pilot study

Before you decide to take part in this pilot study, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

**What is the purpose of the study?**
Approximately 124,000 people a year suffer a heart attack (myocardial infarction) in the United Kingdom, which can result in serious ill-health and death. This situation can be improved by timely pre-hospital diagnosis and early reperfusion of the blocked coronary arteries. Central to this, is accurate interpretation of the electrocardiogram (ECG) by paramedics, in particular a specific pattern known as ST-segment elevation myocardial infarction (STEMI). Studies have shown that paramedics can recognise STEMI, but they can mis-interpret the ECG in 20–30% of cases. The ECG machines commonly used by paramedics have some diagnostic capability in the form of printed computer interpretation messages that appear on the ECGs, but it is not clear how helpful or influential these are for paramedics. This study intends to find out what effect these computer messages have on paramedics recognition of STEMI.

**Why have I been chosen?**
You have been contacted to take part in this study as you are a paramedic member of the College of Paramedics, or a paramedic registered on the continuous professional development portfolio builder (http://www.resuscitate.me.uk).

**Do I have to take part?**
No. It is up to you to decide whether or not to take part. If you do decide to take part you can still withdraw at any time and you do not have to give a reason. Please note that research and development approval has been obtained from Yorkshire Ambulance Service NHS Trust, but no other ambulance service, at present. If you undertake the study, it should be done in your own time as an independent practitioner, rather than as an employee of a particular ambulance service.

**What will happen to me if I take part?**
Once you click the Sign up button on the invitation email, you will be taken to the consent page on the study website. Once consent has been obtained, you will be asked four simple questions:

1. How long have you been a paramedic (in years)?
2. Which educational route did you take to become a paramedic (e.g. IHCD, University)
3. How much time have you spent on 12 lead ECG training / continuous professional development in the past 12 months (in hours)?
4. How patients have you taken for primary percutaneous coronary intervention or thrombolysed in the past 12 months?

After this, you will be shown 12 randomly chosen ECGs, one at a time. They will consist of a mixture of STEMI and STEMI-mimic patterns and may or may not show the computer interpretation message. You will be asked whether the ECG shows as STEMI pattern on not (YES/NO response). There will be a maximum time limit of 60 seconds per ECG. This means that the first stage of the study is likely to take a little over 12 minutes to complete.

You will then have a two week break before being asked to return to the website (via email, or optionally, if you prefer, by text message), where you will see the same 12 ECGs, but with the computer message visibility reversed. So, if you saw ECG 1 with the message in the first part of the study, it will be hidden for the second, and vice-versa. Again, there will be a

time-limit of 60 seconds per ECG, meaning that this stage will take a maximum of 12 minutes to complete.

**What are the possible disadvantages and risks of taking part?**
It is not anticipated that you will experience any disadvantage for taking part in the study, although you will need to give up some of your time. This will amount to about 20 minutes in total.

**What are the possible benefits of taking part?**
This study will provide you with a chance to practice your ECG interpretation. It is hoped that the results from the study and subsequent related studies will help determine whether computer interpretation messages are helpful for paramedics in making decisions about STEMI as well as identify any areas for future education of paramedics on ECG interpretation.

**What if something goes wrong?**
Should you wish to make a complaint about this study, you should not contact the researcher directly. Instead, please email the study supervisor, Professor Steve Goodacre (s.goodacre@sheffield.ac.uk). In the unlikely even that this does not resolve the complaint to your satisfaction, you can contact the University of Sheffield's Registrar and Secretary (registrar@sheffield.ac.uk).

**Will my taking part in this project be kept confidential?**
Yes, all the information that we collect about you during the course of the research will be kept strictly confidential. Your email address will be encrypted prior to saving on the research database and you will not be able to be identified in any reports or publications.

**What will happen to the results of the research project?**
The results of this study will be published as widely as possible in peer-reviewed journals, pre-hospital and emergency conferences and via plain-English summaries in free publications that are delivered to ambulance stations.

**Who is organising and funding the research?**
This research is being conducted by a student as part of the MSc in Clinical Research run by the University of Sheffield, which is funded by the National Institute of Healthcare Research. There is no specific funding for this research project.

**Who has ethically reviewed the project?**
Yes, the University of Sheffield's School of Health and Related Research ethics committee has reviewed this project and given it a favourable opinion.

**Contact for further information**
For further information, please contact the researcher:

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Contact Number: 07557 395 280

**This information sheet and consent form are available to download on the study website (http://respect.ambulanceresearch.co.uk)**

## Thank you for taking part in this study