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Measuring adrenaline release in the first few minutes after severe injury in motorcycle racers

Submission date
23/05/2025

Recruitment status
No longer recruiting

Registration date
11/06/2025

Overall study status
Completed

Last Edited
20/03/2026

Condition category
Injury, Occupational Diseases, Poisoning

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Anecdotal experience from prehospital providers who attend injured motorcycle racers within minutes of an accident will often find the patient pale, clammy and with a difficult-to-palpate or absent pulse. This is often due to blood loss or other life-threatening injury but in some cases will resolve with no treatment & no significant bleeding or injury found. We propose that there is a significant release of catecholamines at the time of injury which results in severe vasoconstriction mimicking severe blood loss, injury or cardiac arrest.
We are in a fairly unique position in being able to attend severe trauma patients within minutes of their injury potentially allowing us to measure this. This study aims to see if there is a large release of adrenaline-like compounds during severe trauma that may mimic severe blood loss or cardiac arrest.

Who can participate?
Competitors in the 2025 Isle of Man TT who are injured during a race or practice session and require an intravenous cannula

What does the study involve?
Blood samples are obtained at the time of IV insertion and again when routine blood samples are taken on arrival in the Emergency department. This will be compared to the injury severity score to see if there is a relation between the two.

What are the possible benefits and risks of participating?
No obvious risks or benefits to participants

Where is the study run from?
Noble's Hospital (Isle of Man)

When is the study starting and how long is it expected to run for?
May 2025 to September 2026

Who is funding the study?
1. Manx Care (Isle of Man)
2. Isle of Man Medical Research (Charity) (Isle of Man)

Who is the main contact?
Dr David Frazer, David.Frazer@nobles.dhss.gov.im

Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

Protocol serial number
174

Study information

Scientific Title
Pre-hospital measurement of catecholamine levels in injured motorcycle riders

Study objectives
There is a significant release of catecholamines at the time of injury, which results in severe vasoconstriction mimicking severe blood loss, injury or cardiac arrest.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 12/05/2025, Isle of Man Research Ethics Committee (Public Health Directorate Cabinet Office, Isle of Man Government, Douglas, IM4 4RJ, Isle of Man; +44 (0)1624 685765; adam.dempsey@gov.im), ref: 174

Primary study design
Observational

Study design
Quantitative single-centre pilot study

Study type(s)
Diagnostic

Health condition(s) or problem(s) studied
Injured motorcycle riders

Interventions
Blood is taken as part of routine treatment and sent for additional testing to look at catecholamine levels.

Intervention Type
Other

Primary outcome(s)
Levels of metanepherines, metanepherine, 3-methoxytyramine and normetanepherine measured using blood test at arrival of prehospital treatment team and again on arrival at hospital

Key secondary outcome(s)
Severity of injury assessed using the Injury Severity Score at follow-up 1 month later

Completion date
01/09/2026

Eligibility

Key inclusion criteria
Competitors in the 2025 Isle of Man TT who are injured during a race or practice session and require an intravenous cannula

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
0

Key exclusion criteria
No significant injury

Date of first enrolment
25/05/2025

Date of final enrolment
01/09/2026

Locations

Countries of recruitment
Isle of Man

Study participating centre
Noble's Hospital
Emergency Department
Strang
Isle of Man
IM4 4RJ

Sponsor information

Organisation
Manx Care

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Manx Care

Funder Name
Isle of Man Medical Research (Charity)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file			23/05/2025	No	No