Issue 29

EMERGE Newsletter

March– June 2020

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Emergency Medicine Research Group of Edinburgh & Resuscitation Research Group Newsletter

THIS QUARTER'S HOT TOPICS

HEARD ABOUT THE COVID-19 RESEARCH GROUP?

In response to the global corona virus pandemic, the COVID-19 Research Group has been established so that multiple research groups work collectively on the rapidly increasing COVID-19 studies to find out; what are the characteristics of this virus? How do we treat it? How do we prevent people catching it?

Read more on Page 2

HALIT-IT Trial - Published!

HALIT-IT was an international randomised control trial testing the use of Tranexamic acid as a treatment for gastrointestinal haemorrhage.

Find out the results on Page 4

Resuscitation Research Group (RRG)

The RRG team used lockdown as a means to reach out and teach CPR to teach CPR via their Kid Researcher Project. They have also secured seed funding for a new board game!

See how RRG are spending lockdown on Page 7

RAMPP Trial -Published!

Thank you to everyone who supported the RAMPP Study and made it a success! The results of the study have now been published!

Read more on Page 2

Randomised Ambulatory Management of Primary Pneumothorax (RAMPP) has been Published!

By Allan MacRaild

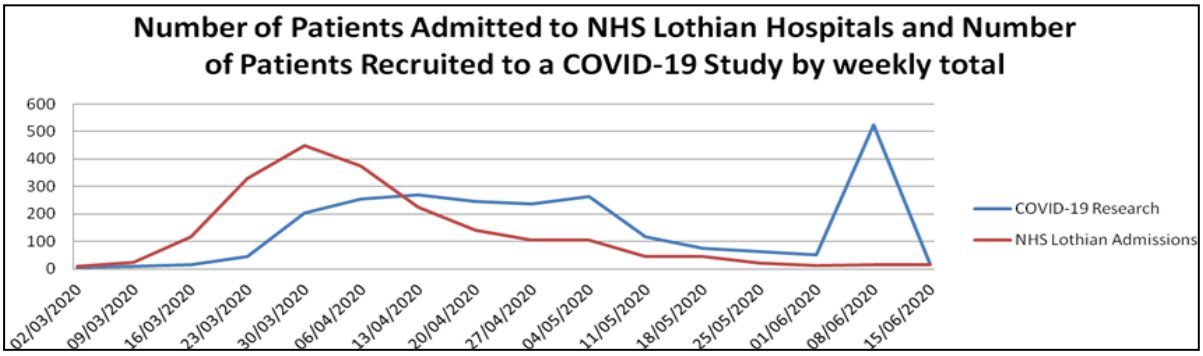
Marie-Clare Harris was Principle Investigator on this collaboration with the Oxford Respiratory Trials Unit. Study results have recently been published in The Lancet https://doi.org/10.1016/S0140-6736(20)31043-6
The trial compared ambulatory management of spontaneous pneumothorax with standard care. Results suggest that outpatient management of spontaneous pneumothorax is achievable and can reduce the length of hospital admission in this patient group.
Delivery of the trial required close working relationships with colleagues in the ED, Respiratory and Radiology. Participant follow-up was extensive and EMERGE was pleased to facilitate successful team work across disciplines.

Special thanks to,

Lynne Thomson – Superintendant Radiographer
John McCafferty – Respiratory Consultant
Andrew Deans – Lead Respiratory Research Nurse
Susie Ferguson – Senior Respiratory Research Nurse
All participants and the Oxford Respiratory Trial Unit

The Achievements of the COVID-19 RESEARCH GROUP

The COVID-19 Research Group is powered by Infectious Diseases, Acute Medicine, Respiratory, Intensive Care Unit, EMERGE, the Clinical Research Facility, ACCORD, the Labs, Pharmacy, the Emergency Department and others, who came together to work collaboratively on COVID-19 research activity.
Over the course of the pandemic the group has carried out research to better understand the pathology of the virus, detect it's presence in patients, potential treatments and vaccine. The RECOVERY trial has been making headlines, publishing 3 press releases in under 100 days on the efficacy of Lopinavir-Ritonavir, Hydroxychloroquine and Dexamethasone. These press releases can be found at https://www.recoverytrial.net/results
ISARIC4C aims to better understand the biological characteristics of COVID by sample collection from COVID positive inpatients. The project is a huge data collection effort which includes 484 patients across NHS Lothian. The trial has published the results to date at https://isaric.tghn.org/covid-19-clinical-research-resources/.
The COVID-BREATHSPEC trial takes breath samples from participants for the analysis of biomarkers associated with COVID-19 infection. The advantage of this potential method of diagnosis is that the test can be completed in only 10 minutes. There are not yet any publications on the trial's findings, but stay tuned for more on this interesting study!
In June, a huge effort of research army of colleagues paid off with the COV-002 vaccine trial. Held at the Western General Hospital and the Royal Hospital for Children and Young People, the trial aimed to evaluate the ChAdOx1 nCoV-19 vaccine, developed in Oxford. The team filtered responses from over 2,700 people and, over the course of 3 weeks,
successfully vaccinated 492 participants, reflected in the large recruitment peak in the graph below. The COVID-19 Research Group have been working hard to develop our knowledge of the virus, and are prepared if a resurgence occurs.



Quote of the Quarter

'The truth is that teamwork is at the heart of great achievement'

- John C. Maxwell

EMERGE Study Information – HOW CAN YOU HELP?

Study	Clinical Presentation	Patient Group	How Can You Help?
DKA	Diabetes	• Patients aged 16 years old or over • Potential ketotic or DKA	Highlighting potential patients to the EMERGE team who will investigate further Ext 21315 or 21284
IONA	Suspected Recreational Drug Use	• Patients aged 16 years old or over • Suspicion of novel psychoactive substances	
KRAKIL	Acute Kidney Injury	• Patients aged 16 years old or over • Diagnosis of AKI	
lumiraDx NOVEL	D-DIMER or CRP required	• Patients aged over 16 years old • D-DIMER or CRP completed	
OCTS OUTCOMES AFTER CHEST TRAUMA SCORE	Rib Fracture	• Patients aged 18 years old and over • Confirmed rib fracture by	
TARGET-CTCA	Suspected ACS	• Patients with troponin results between 5 and the 99th centile (Amber pathway)	Highlight potential patients to the research team and hand out the study postcards when the research team are

Call the Research Nurse Desk in the Emergency Department

On Ext 21315

Or the EMERGE Office Ext 21284

If you have any potential research participants

Clare and Lisa join the EMERGE Team!

Clare (right) has been working in the ED for a number of years and now joins EMERGE to be 'a positive influence on the delivery of patient care'. Lisa (left) joins us from the vascular surgery department to learn more about clinical research.

Welcome to the Team!

HALT-IT has been Published!

By Matt Reed

On 19th June 2020, the HALT-IT study was published in the Lancet[1]. The study was conceived 10 years ago and initially struggled to get off the ground as funders felt that the question of whether high dose tranexamic acid (TXA) reduces mortality in patients with gastrointestinal (GI) bleeding had already been answered and a further study was not required; a Cochrane review of 1701 patients had found a reduction in mortality with TXA for patients presenting with upper GI bleeding [pooled relative risk 0·60; 95% CI 0·42–0·87).

Eventually after receiving funding from the UK National Institute for Health Research Health Technology Assessment Programme, HALT-IT recruited the first of its 12009 patients in July 2013. Edinburgh was one of 164 hospitals in 15 countries to participate and was the 8th top UK recruiting site with 125 participants. The trial was a randomised, placebo-controlled, double blind trial enrolling adults with significant GI (upper and lower) bleeding. A 1g TXA infusion (or saline control) was given over 1 hour followed by a 3g infusion (or saline control) over 24 hours.

BOTTOM LINE: There was no difference in the primary outcome; death due to bleeding within 5 days of randomisation (TXA 3.7% v Placebo 3.8%). The only significant difference found amongst **secondary outcomes** was in the rate of venous thromboembolic events (PE, DVT; 1·85, 1·15–2·98) and seizures (1·73, 1·03–2·93). TXA should not be used for the treatment of gastrointestinal bleeding.

This study has many strengths. It was a huge, well designed study with a pragmatic design and emergency consent which meant that participants were able to receive the trial drug soon after presentation. There have been some questions raised of the study. The primary outcome was amended from all-cause death to death due to bleeding 6 months before the end of recruitment. Because TXA has a short half-life (2 hours) the trial team did not expect TXA to reduce deaths from rebleeding many weeks later. Another concern focussed on the varied trial population (for example including upper and lower GI bleeding) and the requirement that the treating clinician was uncertain as to the potential benefit of TXA. This meant it is likely that some unwell patients with large GI bleeds were given TXA and not randomised to the study on the basis that the clinician treating them thought it would help.

Despite these weaknesses, this is a very well designed trial and there will never be one as large as this again looking at this question. Whilst TXA has been shown to be beneficial in trauma and head injured patients, and patients with obstetric and surgical bleeding this trial very clearly had a negative result and many in the Emergency Medicine community were disappointed about the results. Although there is still no effective drug treatment for non-variceal GI bleeding in the ED, this trial highlights the importance of well designed studies to answer specific clinical questions.

There has been a growing use of TXA for upper GI bleeding by ED clinicians across the UK for several years now and towards the end of the HALT-IT trial it was almost becoming a standard of care. TXA had been incorporated into many hospital's major haemorrhage protocols for haemorrhage of any origin. Just because something works in one patient group, it isn't necessarily going to be effective in another and we definitely cannot rely on meta-analyses of many small poorly designed trials. HALT-IT reminds us that trials such as this and the work of Emergency Medicine research groups up and down the UK are important to ensure we don't wrongly extrapolate therapies or wrongly assume therapies are effective when they may be causing our patients harm.

Many thanks to everyone involved in delivering the HALT-IT trial locally including the many specialties we collaborated with, the pharmacy department and above all the 125 of you who thought of HALT-IT when treating a patient with GI bleeding and offered them the opportunity to take part in practice changing Emergency Medicine research.

EMERGE Logo has had a makeover!

You might have noticed that this edition of our newsletter is using a different logo! EMERGE is very happy to reveal our new logo, designed by DaySix Creative Agency. This logo will be rolling out over the rest of our merchandise, so if you're a fan of our new look make sure you're research active and you could win one of our merchandise bundles!

KRAKIL Update

By Emily Godden

KRAKIL is recruiting participants who have an AKI as well as matched controls to see whether AKI causes sustained activation of the endothelin system to the long-term detriment of renal and systemic haemodynamic functions.

KRAKIL aims to recruit altogether 100 patients from across the emergency department, acute medical unit and inpatient wards at the Royal Infirmary. 50 of which with AKI's and 50 matched controls with normal kidney function. We will monitor their bloods and urine for 90 days and compare the data from between the two groups.

We have recently amended the protocol to allow for a wider inclusion criteria; determining an AKI as detailed below.

Diagnosis of AKI determined as:

- Previous (within 3 years) estimated Glomerular Filtration Rate (eGFR) >45 mL/min/1.73m^2 **OR** no history of kidney disease if no recent (within 3 years) blood results available **AND**
- Elevated creatinine over 1.5 x previous result **OR** over 150 µmol/L if no previous value **AND**
- Increasing creatinine within 48 hours **OR** dialysis

PROM OCTS Update

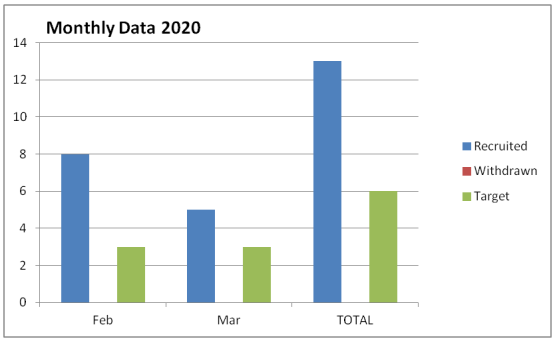
By Nicola Freeman

This is a multi-centre study led by the University of Nottingham aimed at improving patient care for patients with traumatic rib fractures.

So far research on patients with rib fractures has predominantly focused on "hard outcomes", such as mortality, length of stay in hospital and time in ITU. However, it is also important to measure how the patient is doing from their perspective through 'patient reported outcome measures' (PROM).

This study aims to create a PROM specific questionnaire to rib fracture patients to give us a better understanding of their recovery and whether a new treatment for example (such as surgical intervention) actually makes a difference.

Help us keep this great study going by contacting us with any potential participants.



TARGET Update

By Rachel O'Brien

EMERGE are excited to have restarted the TARGET-CTCA study after the team had halted recruitment to focus on COVID-19 research. This joint venture with Prof Nick Mills and the cardiology research team as well as the Glasgow QEUH ED Research team, EMQUIRE is patients with suspected ACS across NHS Lothian and NHS Greater Glasgow and Clyde. The main study aim being to evaluate troponin in acute chest pain to risk stratify and guide effective use of CT Coronary Angiography (CTCA). The study has recruited almost 300 participants to date.

Research-focused Courses

Unfortunately at the moment the Wellcome Trust are unable to run research courses due to the COVID-19 pandemic however if you want to be research active and complete a Good Clinical Practice course, you can complete the free online RCEM or NIHR GCP courses (links below).

RCEM GCP Course: https://www.rcem.ac.uk/RCEM/Quality_Policy/Professional_Affairs/Research/RCEM/Quality-Policy/Professional_Affairs/Research.aspx?hkey=e822bd01-59ba-4003-9bdb-f9cc3e5a0474

The Royal College of Emergency Medicine

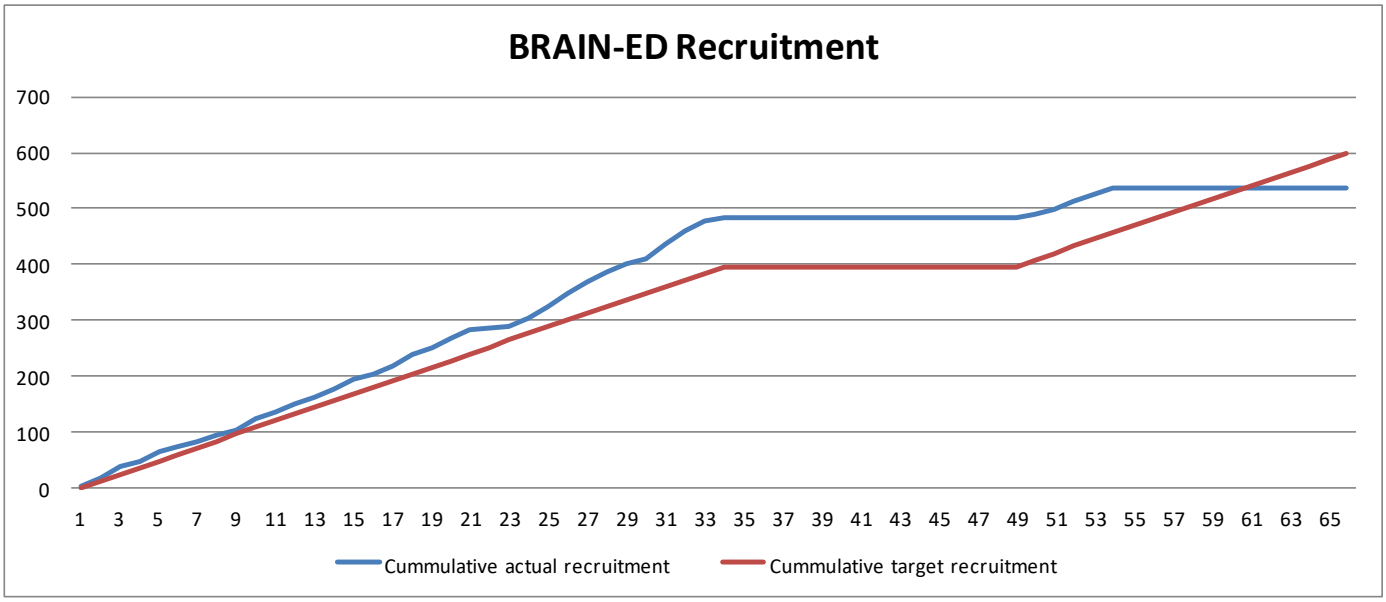
NIHR ICH-GCP Course: https://www.nihr.ac.uk/health-and-care-professionals/learning-and-support/good-clinical-practice.htm

Stroke Research Team

BRAINED IS BACK!

By Jessica Teasdale

After being on hold due to EMERGE's focus on COVID-19 research, BRAINED is now recruiting again in the Emergency Department. The study is a bio-resource research study looking at developing a novel biomarker which can help in the detection of brain tumours. Patients who present to the department with a neurological symptom and assessed to go for a CT scan are eligible. Once consented, we complete a short questionnaire, a quick 60 second cognitive assessment and take one blood sample. We have already recruited over 490 patients out of 600!



Current Stroke Studies in the Emergency Department

Study	Clinical Presentation	Patient Group	How can you help?
ATTEST 2	Ischaemic Stroke	-Patients aged over 18 years old -Less than 4.5 hours after symptom onset -Male or non pregnant females	Highlighting potential patients to the EMERGE team who will investigate further
BRAINED	Any neurological-related symptoms that are not traumatic	-Patients aged over 18 years old -Presents to ED with neurological symptoms	
DASH	Intracerebral Haemorrhagic Stroke	-Patients aged over 18 years old - Confirmed intracerebral haemorrhagic - less than 12 hours onset	
LINCHPIN	Primary Spontaneous Intracerebral Haemorrhage (ICH)	-Patients aged over 16 years old - First ever ICH	Ext 21315 or 21284
precious	Acute Stroke (Intracranial haemorrhage or ICH)	- Patients over 66 years old -Less than 24 hours after onset	

SAVE A LIFE FOR SCOTLAND

Kid Researcher Project

SALFS has undergone some major adaptations during lockdown! As the partnership has been unable to have face-to-face CPR sessions during this time, we've had to develop some new and exciting ways of reaching the public, and thus Kid Researcher was formed.

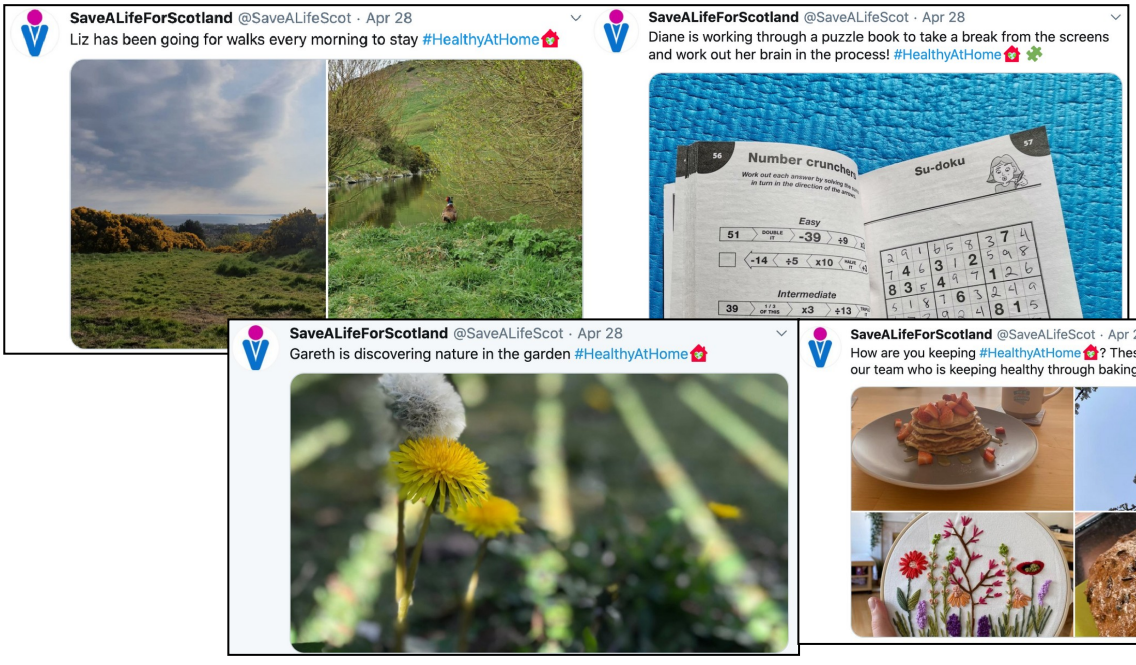
Kid Researcher is an online resource that will enable us to reach school-age children with CPR skills during lockdown. The initiative is under testing at the moment but we look forward to sharing more with you later this summer!

CPR Board game

Before lockdown began, RRG secured seed funding from the Wellcome Trust to develop a novel CPR board game! This game will be a community engagement tool informed by Scotland's OHCA data and the chain of survival. It will be used to illustrate the public the many different factors that can affect survival in an OHCA situation

SALFS at Home!

SALFS have now been working from home for 17 weeks! During our time working from home we asked how SALFS was keeping #HealthyAtHome



For more information on EMERGE, RRG and our team, please visit www.emergeresearch.org

Newsletter edited by Emma Moatt