

Research on Intensive Care at the Bristol Royal Infirmary

Dr Aggie Skorko

ST5 ICM

NIHR ACF

STAR network ICM chair

Challenges of research in critical care

- Consent
- 24 hour nature of the specialty
- Clinically pressured environment
- Time critical interventions

- Blinding interventions
- No gold standards

Why bother?

What's best for the patient in front of me?

- Who to admit
- When

Fluids and infusions:

- How much fluids should we give?
- Which fluid?
- What about blood?
- What about albumin?

Ventilator

- When to start?
- When to stop?
- Let the patient breathe?
- Insert a tracheostomy?

Drugs for blood pressure:

- Which one?
- When to start another one?
- What blood pressure should a patient have?

Renal filter

- To start or not to start?
- when?
- How often?
- What anticoagulation?

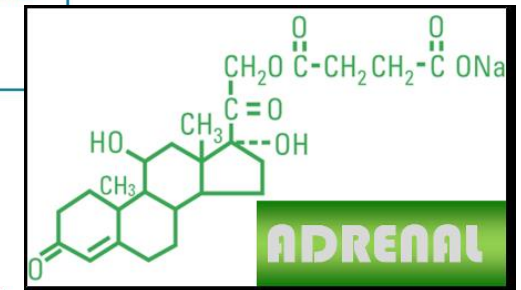
Sepsis

- How do we diagnose it?
- How do we treat multi-resistant organisms?
- What drugs work?



What sort of research is being done locally?

- Multinational, multicentre trials:
 - **Airways-2** (based at Bristol CTU) – airway management during cardiac arrest
 - **65** - permissive hypotension in critically ill
 - **Adrenal** - Adjunctive corticosteroid treatment in critically ill patients with septic shock
 - **Interest** - Recombinant Human Interferon Beta-1a for ARDS
 - **TEST-IT** - Point Of Care Testing For Sepsis In ICU Patients
- Local trials:
 - POHCAR
 - Ketogenic diet
- Trainee research networks



Overcoming challenges

Staffing:

- Research nurses
 - 3 monthly rotations, research is embedded into the unit
 - 7 days a week presence on site

Screening:

- Monthly draw

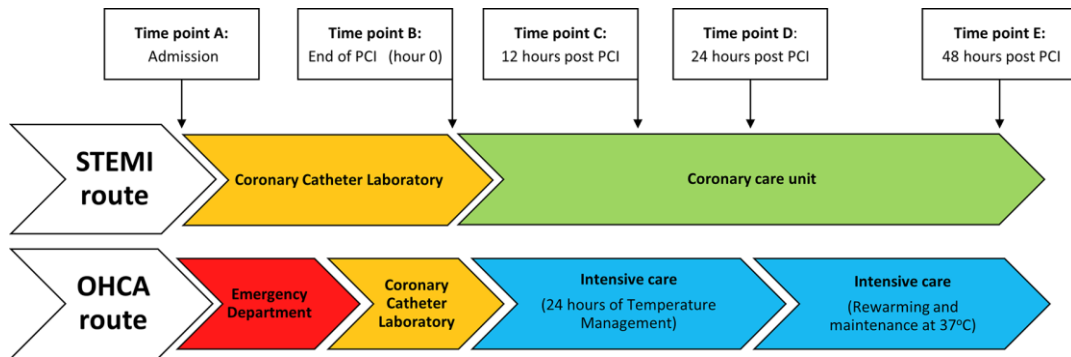
Consent:

- Non-consent (confidential advisory group dispensation)
- Deferred consent
- Family assent/advice
- Professional assent/advice

POHCAR

Platelets in out of Hospital

Cardiac Arrest



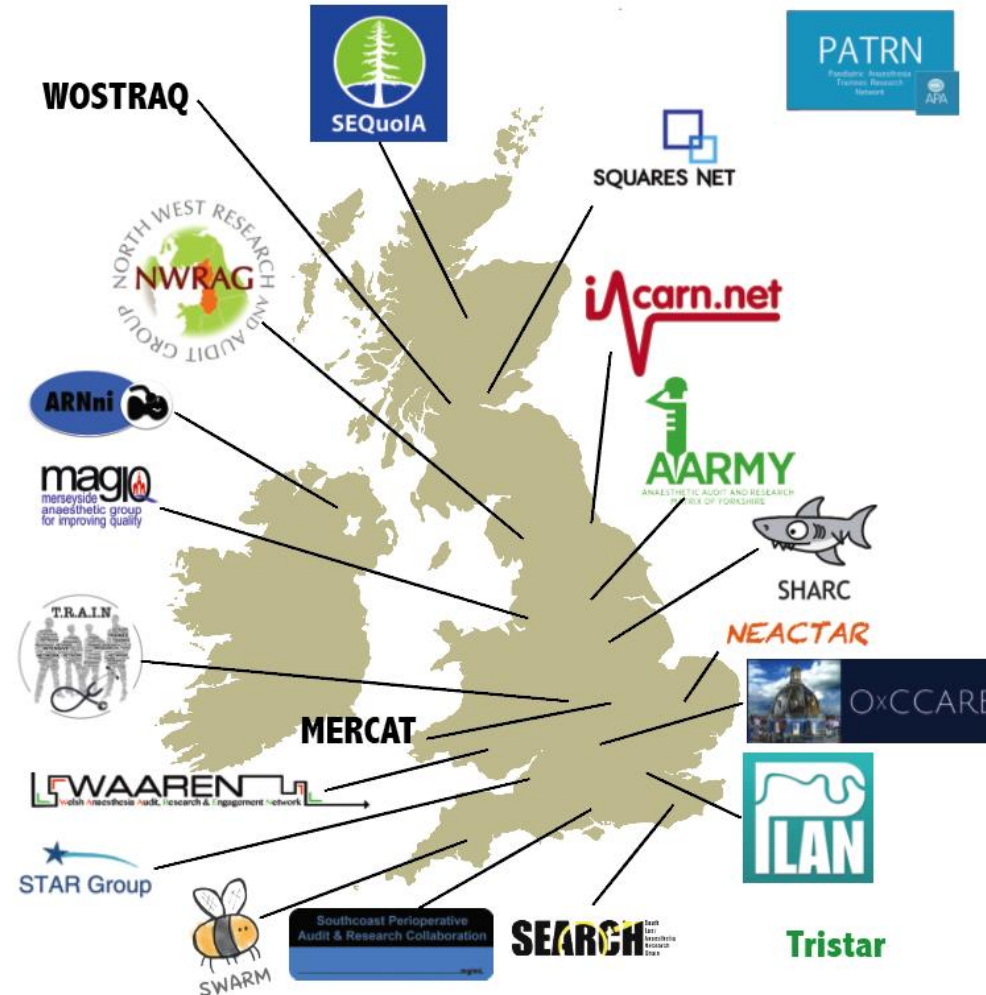
- Observational study
- NIHR Portfolio
- Recruited 60 patients
- Resuscitation council (UK) and David Telling grants

Open Access

Protocol

BMJ Open Research protocol for platelets in out-of-hospital cardiac arrest: an observational, case-controlled, feasibility study to assess coagulation and platelet function abnormalities with ROTEM following out-of-hospital cardiac arrest (PoHCAR)

Anaesthetic trainee research and audit networks



ANAESTHESIA TEAM OF THE YEAR

thebmj**awards**

This award identifies an innovative project in the field of anaesthesia which has measurably improved care for patients



RUNNERS UP

Improving Tracheostomy Care
University Hospital South Manchester
Comprehensive QI in the ICU
Glasgow Royal Infirmary
Day Case Shoulder Surgery Initiative
Newcastle upon Tyne Hospitals Trust

"This enthusiastic team should be congratulated for spearheading an important, highly original, highly generalizable project and achieving a great deal in a relatively short space of time"

WINNER

SW ANAESTHESIA RESEARCH MATRIX
PLYMOUTH HOSPITALS TRUST



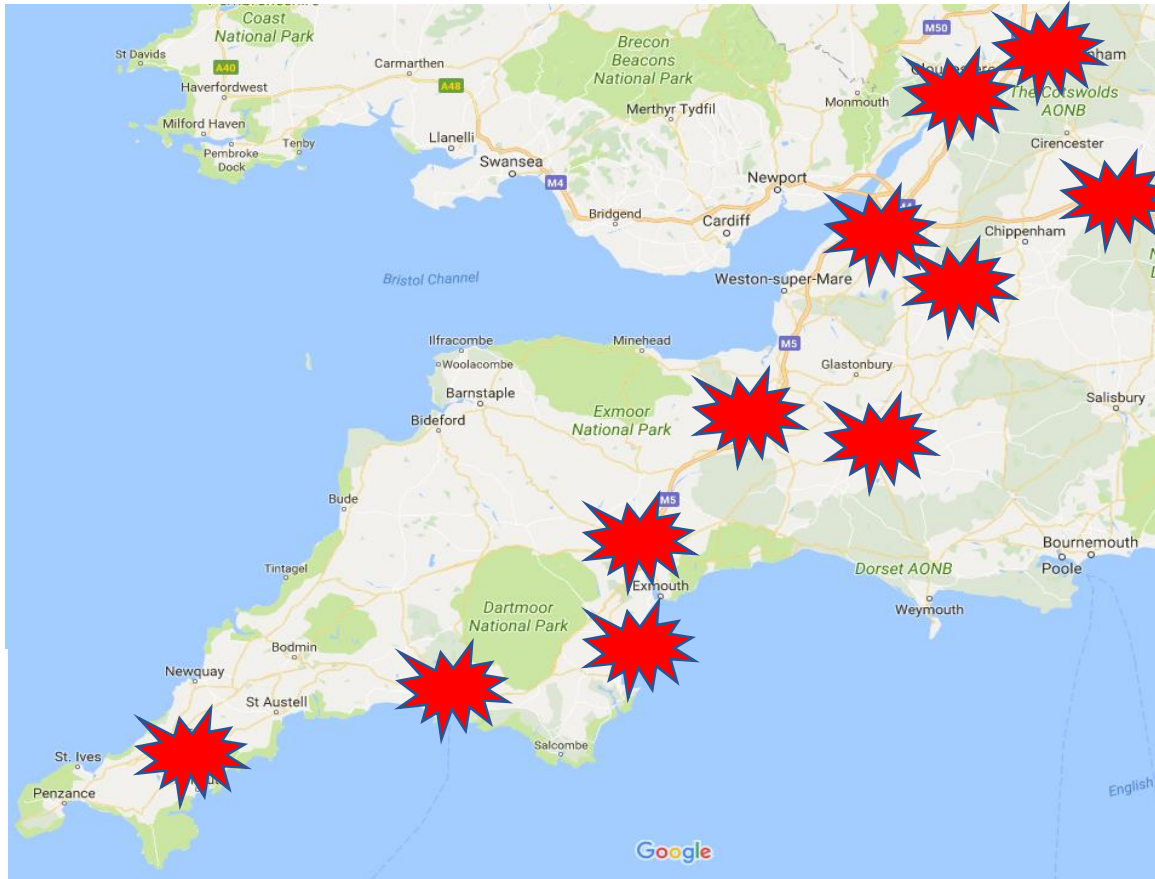
What they did: "Anaesthetists think of research as dry and on-the-side, done at lab bench by geniuses" says Gary Minto, consultant anaesthetist at Plymouth Hospitals NHS Trust. "We wanted to change that, so they see it as something everybody should be doing as part of their job of looking after patients in theatre."

But outside the highly academic stream provided by the National Institute for Health Research, there has historically been little opportunity for anaesthetists – or perioperative physicians, the term Minto prefers – to engage in research. Those in training at registrar level were concentrating on their careers, with short-duration posts and a lack of credibility to lead a large project holding them back.

The solution was to set up a regional network to carry out research and audit across six centres in south west England – the SW Anaesthesia Research Matrix, or SWARM. Over the past four years ten high-quality collaborative projects have been run, annual research training meetings held, and results widely presented and published. Results are published under the group name SWARM rather than as individual authors.

"We're still new in the UK at collating outcomes" says Minto. "Things like complication rates, patient

Regional tracheostomy audit



- ▶ 93 patients from 12 units
- ▶ Immediate complications occurred in 23%
- ▶ 32% of patients suffered a tracheostomy-related complication at some stage during the ICU stay
- ▶ 10% of tracheostomies became displaced





Local research:



(Satisfaction and Wellbeing in Anaesthetic Training)

AAGBI/NIAA funded NIHR Portfolio study.

mixed-methods analysis of stress, depression, burnout syndrome and professional satisfaction in UK trainees

National RAFT projects:

2017:



(intraoperative Hypotension in the Elderly)

NIHR Portfolio study

Observational study into intra-operative changes in blood pressure in patients aged >65 in UK anaesthetic practice.

40 trainees (and 8 consultants) involved, over 200 patients recruited

2018:



ATOMIC2 (Assessment of Tracheostomy Insertion and Care)

Builds on a regional audit of tracheostomy insertion and care which found a relatively high rate of complications and variable practice across the two regions.

Thank you

a.skorko@nhs.net



@STAResearch

@omicproject