MERITS: Improving outcomes by reducing AKI in Thoracic Surgery
Multi-centre Evaluation of Renal Impairment in Thoracic Surgery

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Background

- Mortality in thoracic surgery is very low.

- Risk stratification is difficult with an infrequent outcome measure.

- We propose Acute Kidney Injury (AKI) as an outcome measure.

- AKI is considered partly preventable.

- Incidence of AKI post-thoracic surgery is not well documented.

- We conducted an audit and pilot study looking for AKI post-thoracic surgery for the year 2015.

- The incidence of AKI at the Royal Papworth hospital for 2015 was 15.3% after all thoracic surgery, 19.9% after all lung resections and 21.3% after primary lung cancer resection.

- Subsequently we developed the **MERITS** study to determine AKI incidence and outcomes in SCTS reporting thoracic surgery units.

- To date there are there are 24 cardiothoracic units and over 180 medical students from the UK and Ireland that have expressed an interest.

- The primary aim for **MERITS 1** it to determine a baseline rate of AKI post-thoracic surgery in multiple centres according to SCTS code
  MERITS is collecting robust and pragmatic data variables.

- **MERITS1** opened on 17/09/2018 and we are keen to recruit more students & centres.

MERITS brief protocol

- Data collection and entry will be performed locally by students recruited by **SCTS STUDENTS** and supervised by a local coordinator;

- Biochemistry laboratories to provide already calculated AKI stages 1,2,3 data and peak Creatinine.

  Inclusion criteria:

- All patients undergoing thoracic surgery under the care of participating consultants in the given unit in the time period from 01/04/2016 to 31/03/2017 (date of 1st surgery to be in these dates).

  Statistics:

- At a confidence level of 95% with a margin of error of 1.5% a sample size of 2520 patients are required. Analysis supported by **Cambridge University** Biostatistics.

Consultant → Registrar → Student | Student | Student
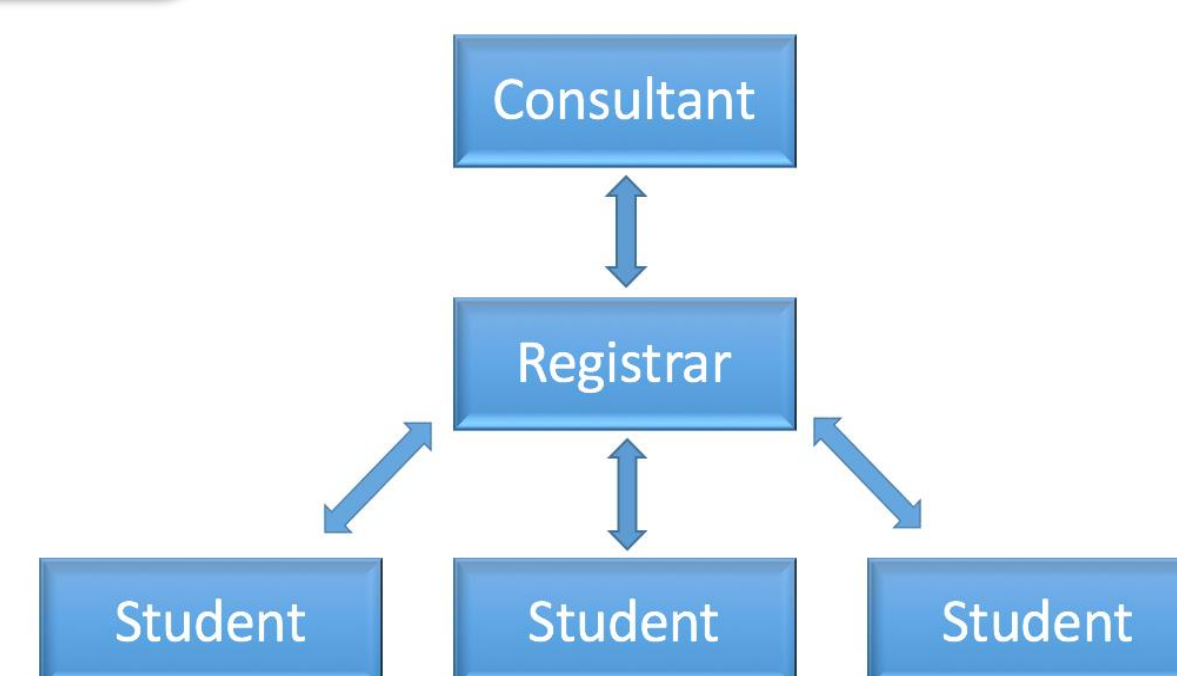
- The following selected parameters will be collected:

Gender	Submitted SCTS operation code
Date of birth	AKI stage 1,2,3 up to 7 days of surgery
Date of operation	Peak creatinine
Date of discharge	Pre-op renal replacement therapy
Date of death If applicable	Post-op renal replacement therapy

Where are we now?

- March 2018 - 1st call & presentation at SCTS 2018

- April 2018 - protocol development. Regulatory approval as a multi-centre study

- May-June 2018 - recruitment of centres and medical students

- July – August 2018 - recruitment of biochemistry laboratories
  17th September 2018 - Launch of **MERITS 1** data collection

- October 2018 - collected 1,230 patients and data collection commenced in 7 centres

How to join MERITS?

- https://royalpapworth.nhs.uk/merits
  papworth.merits@nhs.net - General
  vinci.naruka@nhs.net - Research fellow
  aman.coonar@nhs.net - Consultant surgeon & CI

- **MERITS CENTRES** currently collecting*:
  Cambridge, Hull, Brompton & Harefield, Edinburgh, Birmingham, Middlesbrough, Liverpool.

- *Opening shortly: Glasgow, Manchester*

- **SCTS STUDENTS** project