Research and Managing Data is one of the seven generic professional domains in the new curriculum.

The 2021 Curriculum Assessment Guidance (pdf version) of the Royal College suggests "*the generic professional domains are skills that are intrinsic to the activities of all professional doctors, and thus it is likely that such domains can be reviewed and completed by the Educational Supervisor (ES).*" It also highlights changes in the assessment philosophy and provides an assessment blueprint for generic and speciality-specific domains. The guidance places more weight on trainees ***demonstrating learning by reflecting on and analysing*** their practice and reducing the emphasis on collecting achievements. It is suggested that Supervised Learning Events (SLEs) should ideally ***document a record of conversation*** which helped a trainee develop their practice, i.e., a developmental conversation. The assessment blueprint suggests CBD and A-QIPAT (Anaesthesia Quality Improvement Project Assessment Tool) may be used to assess this domain.

This document includes copies of Stage learning outcomes (Stages 1-3), Key capabilities and suggested examples from the new curriculum for Research and Managing data domain. Many of these examples are self-explanatory. (Pages 3-8)

Based on my interpretation of the assessment guidance, I have added some more examples of Supervised Learning Events (SLEs), personal activities, and personal reflections, which may help demonstrate the attainment of Key capabilities for this domain. I have also sign posted to some resources which are free to access and improve trainees' knowledge of research, ultimately help to achieve key capabilities.

The best way to collect evidence for this domain is to *look for opportunities during clinical work* and *get involved in data collection and participation in research studies and local guidelines.*

Following are a few examples (to be considered alongside the RCoA suggestions below):

- Discussion of anaesthetic/treatment options with a patient in theatre environment or face to face pre-assessment clinic could be linked to Key Capability B in Stage 2 and Stage 3 (e.g., Offering a patient Open AAA repair vs Endovascular repair or Day case surgery vs In-patient stay depending on their co-morbidities/exercise tolerance).

- Case-Based Discussion from an area of special interest where national guidelines/local guidelines were followed/considered/critically analysed: document learning and discussions around it on LLP. (Stage 3).

- Using peripheral nerve blocks in patients presenting for hip fracture surgery: demonstrate understanding of the reasons/evidence behind this national recommendation using a short analytical commentary.

- Poster/M&M presentation of an unusual/complex case: Reflection and analysis demonstrating learning where research data is lacking or inconclusive (Suggest attaching Poster/PowerPoint of the presentation on Lifelong Learning Platform.)
- Many Research Methodology courses teach candidates how to formulate a relevant research question and design a study to answer them. A trainee should be able to demonstrate what they learnt on the course and *how it helped them achieve the relevant key capability using a short commentary/reflective piece*. (Attaching an attendance certificate on its own is unlikely to be sufficient). *An ideal way to attain this capability would be to engage in a research study at a deeper level, as recommended in the RCoA Stage 3 guidance.*
- E learning for healthcare (browse catalogue) is an excellent online resource the content for which has been developed by many well-known academics in the country. The **Research, Audit and Quality Improvement** (Module 1 Research and Audit Core Knowledge) may help trainees in *all three stages* of training. The activity report is easily downloadable from the website.
- Online GCP training is easily available via the NIHR website.
- A Research methodology course from the local deanery or the Royal College (suggest attaching a short reflective commentary demonstrating learning)

Other useful resources

- National Institute of Academic Anaesthesia website is a great starting point for knowing more about research activities at the national level. The webpage links to Perioperative Medicine Clinical Trails Network (POMCTN), Health Service Research Centre (HSRC), NAP, NELA and Perioperative Quality Improvement Program (PQIP)
- AARMY is local research network for trainees.

Please ensure that you have enclosed a copy of your latest MTR when requesting the HALO sign-off. In my experience, attaching a link to the MTR in your portfolio may not work as I may lack the necessary permissions to access it. It is preferable to attach the MTR as a PDF file (using the "print to PDF" function of a browser) or clear screenshots displaying the entirety of the MTR.

These suggestions will be reviewed periodically and could be changed based on how well we can deliver the new curriculum and improve training.

Research and Managing Data-Stage 1

Stage learning outcome

Is research aware: demonstrates an understanding of the evidence-based approach to anaesthetic and perioperative care

Key capabilities

A	Demonstrates knowledge of different research approaches in scientific enquiry
B	Develops the skills required to be current with national guidelines, best practice and relevant publications, appreciating the principles of an unbiased literature search
C	Explains the principles of Good Clinical Practice (GCP)
D	Explains the role of research evidence in clinical practice
E	Describes essential statistical techniques used in research

Examples of evidence

Supervised Learning Events (SLEs) can be used to demonstrate:

- use of evidence-based national or local guidelines
- accessing and interpreting evidence from the literature to aid shared decision making.

Personal Activities and Personal Reflections may include:

- presentation at journal club: academic paper, review article, national reports or guidelines such as CEMACH, NCEPOD, NICE
- undertaking or completed GCP certificate.
- assisting with data collection for research project
- involvement in review article / literature review
- awareness of local Trainee Research Network activity (TRN).

Cross links with other domains and capabilities

- *Safety and Quality Improvement*

Research and Managing Data-Stage 2

Stage learning outcome

Is research ready: develops critical appraisal skills; gains a broader understanding of data management and research methodology; communicates research evidence to patients and colleagues in a meaningful way

Key capabilities

A	Assesses the quality of research and its place in the literature when considering changes to practice
B	Can communicate to patients, the public and colleagues the strengths and limitations of evidence underlying anaesthetic and perioperative practice
C	Develops the ability to critically appraise published literature
D	Describes key approaches to improving patient outcomes through research including: clinical trials, stratified medicine, genomics, informatics, qualitative techniques, systematic review and meta-analysis, health services research
E	Explains the details of data protection in research
F	Describes the key components of research and its governance with emphasis on ethical considerations and ethics committees, translation into practice and the roles of Trust and University research and development departments
G	Applies a variety of statistical techniques used in research and understands their strengths and limitations

Examples of Evidence

Supervised Learning Events (SLEs) can be used to demonstrate:

- use of evidence-based national or local guidelines
- accessing and interpreting evidence from the literature (CBD).

Personal Activities and Personal Reflections may include:

- involvement in data collection as part of a local, regional or national study
- critical appraisal of journal article for example at a journal club meeting
- presentation of poster or paper at a regional or national meeting
- involvement in developing local guidelines.

- appropriate use of statistics when contemplating research projects
- participation in trainee research network activities
- GCP certificate completion
- courses: research methodology, information governance.

Cross links with other domains and capabilities

- *Safety and Quality Improvement*

Research and Managing Data-Stage 3

Stage learning outcome

Is research experienced; has engaged with research, applies the governance involved in research, evaluates and communicates research findings clearly

Key capabilities

A	Practises evidence-based medicine based on critical analysis and awareness of current literature and national and local guidelines, with a detailed knowledge in an area of special interest in anaesthetic or perioperative practice
B	Recognises where research can ask relevant questions, appreciates how to study these, where findings can be applied to patient care, and can communicate these to patients in a meaningful way
C	Promotes a culture of professional critical enquiry with the ability to understand and apply new and future areas of research and related practice eg. informatics, genomics, stratified medicine, population and global health
D	Demonstrates practical knowledge of research principles and governance and how to translate findings into practice
E	Formulates relevant research questions and designs a studies to answer them
F	Demonstrates the processes for effective clinical decision making where research is absent or contradictory

Examples of Evidence

Experience & Logbook

- inclusion of cases from special interest area(s).

Supervised Learning Events (SLEs) can be used to demonstrate:

- use of evidence-based medicine
- management of cases where research data is lacking.

Personal Activities and Personal Reflections may include:

- attendance at scientific meeting
- abstract accepted at national or international meeting.
- publication in peer reviewed journal
- involvement in research project including ethical approval, gaining consent of participants, data analysis.
- leads in development or revision of local guidelines.
- participation in systematic literature review

- active involvement with local trainee research network (TRN) such as local lead for a TRN study.

Cross links with other domains and capabilities

- *Safety and Quality Improvement*
- *Education and Training*

Table 2 - The assessment blueprint

	Generic professional domains							**Specialty specific domains**						
	Professional Behaviours & Communication	Management & Professional Regulatory Requirements	Team Working	Safety & Quality Improvement	Safeguarding	Education & Training	Research & Managing Data	Perioperative Medicine & Health Promotion	General Anaesthesia	Regional Anaesthesia	Resuscitation and transfer	Procedural Sedation	Pain	Intensive Care Medicine
A-CEX	**O**	**O**	**O**		**O**	**A***		**A***	**A***	**A***	**A***	**A***	**A***	**A***
DOPS	**O**		**O**	**O**		**A***		**O**	**A***	**A***	**O**	**O**	**A***	**A***
CBD	**O**	**A***	**O**	**O**	**A***	**A***	**O**	**A***	**A***	**A***	**A***	**A***	**A***	**A***
ALMAT	**A***	**A***	**A***		**O**			**A***	**A***	**A***	**O**	**A***	**A***	
A-QIPAT	**O**	**O**	**O**	**A***			**O**							
MSF	**A***	**O**	**O**	**O**	**O**	**O**	**O**	**A***	**A***	**A***	**O**	**A***	**O**	**A***
MTR	**A***	**O**	**A***	**O**	**O**	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***
HALO	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***
IAC/IACOA	**O**		**O**	**O**	**O**			**A***	**A***	**A***	**A***	**A***	**A***	
Primary FRCA	**A***	**O**	**O**	**A***	**O**		**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***
Final FRCA	**A***	**O**		**A***	**O**		**A***	**A***	**A***	**A***	**A***	**A***	**A***	**A***

A* should be used to assess this domain.

O may be used to assess this domain