



INTERCOLLEGIATE DIPLOMA IN INTENSIVE CARE MEDICINE

GUIDANCE ON DISSERTATIONS AND DISSERTATION SUMMARIES

Dissertation Summary

Approval must be sought from the Examiners of the topic proposed for the dissertation. To this end, candidates should submit a **summary** of the planned dissertation to the Administrative Office of the Board (address as shown above). The dissertation topic **must** be discussed first with the Regional Advisor in Intensive Care Medicine. A candidate should also choose a dissertation supervisor, who may or may not be their RA in ICM.

The dissertation must be written by the candidate. Whilst the candidate is expected to seek advice and help, the final dissertation must be the work of the candidate and the dissertation must be single author.

The intention of the summary is provide the examiners with an opportunity to ensure that the dissertation is in an appropriate subject area and of adequate depth and breadth for the examination. To do this the examiners need adequate information to make an assessment of what the candidate is intending to produce. The following guidelines are intended to aid the candidate in providing adequate information within the summary.

In general terms the dissertation may be:

- **Review** - it does not need to be a 'systematic review' but if it is described as such it should conform to that definition.
- **Research paper** - it must be of adequate substance and quality to be publishable. with a full and appropriate discussion. In particular, as the research may be limited in nature, the discussion should encompass the general area within which the research is relevant so it constitutes a review of the subject matter.
- **Audit** - if an audit is to be used it must provide a full introduction and full discussion of the subject matter being audited, as with a research based paper.
- **Based upon a higher degree** (see below)

The summary – **which must not exceed 700 words** – should be structured as follows:

Front page should contain:

Candidate's name
Specialty
Hospital or other establishment
Name of Regional Advisor in ICM
Name and contact details of chosen dissertation supervisor
Title of dissertation

Page 2:

Define the dissertation topic. It may help to state clearly the aims of the dissertation. Outline the limits of the subject to be addressed. In apparently narrow topics this may require emphasis on the scope of the topic while in massive topics it may require demonstration of the specific area that will be focused upon.

An intended heading outline of the review or research. This may include the technique that will be used to research the literature on the topic. This may but does not necessarily include some of the following:

- Literature search methodology; Electronic Search use, e.g. Medline, Biomed Central and Web of Knowledge. Limits of that search (for example English language articles).
- Specific subtitles that demonstrate the main areas to be covered through the dissertation.
- You may wish to point out areas of exclusion for example specific populations such as adults or children.
- In research based dissertations then following a publication style (Introduction, Methods, Results and Discussion) may be more appropriate but there should be an adequate introduction as well as a critical discussion. As in other dissertations, a reasonable standard would be one that is commensurate with publication.
- Conclusions or recommendations that will be sought.

Candidates who have already been awarded a higher degree in a subject relevant to intensive care medicine may, at the discretion of the Examiners, be excused from the dissertation oral. A summary of the thesis, which led to the award of the higher degree, will need to be submitted. This summary should be prepared on the lines of the guidance on preparation of a dissertation summary. The thesis (which must be in English) must then be submitted by the closing date for applications, together with formal confirmation of the award of the higher degree.

Responses to the Dissertation Summary

The nature of any summary is that it only provides an indication of the form of the dissertation. Three outcomes may arise:

1. The examiners may be satisfied with the dissertation and the candidate will proceed.
2. The examiners may overall be satisfied with the dissertation summary and the candidate may proceed but some of the examiners may have raised questions from their reading of the summary that to them suggest areas of potential weakness in the final dissertation. These comments will be returned to the candidate so they are aware of perceived weakness in the summary and can make an assessment of whether those anxieties are justified which will provide an opportunity for the candidate and supervisor to modify the plan of the dissertation if they feel it necessary. These comments are intended to be helpful, arise only from the dissertation summary and may or may not be relevant in the full dissertation and that is for the candidate and their supervisor to determine.
3. The final outcome is if the topic or the summary suggests the dissertation will not be suitable for this examination. It is important to emphasise that this examination is in Intensive Care Medicine and while this is a very broad topic it does not encompass the entirety of medical practice.

Submission of Dissertation

All dissertations and summaries should be submitted to the Board electronically via ibticm@rcoa.ac.uk; trainees must ensure that they retain a copy. The manuscript copies should accompany the trainee's other material required for application to an examination (completed application form, acknowledgement card, examination fee and four hard copies of the trainee's logbook). All manuscripts will be reviewed by two examiners.

Content of Dissertation

- a). **Title page**
The title page must contain a title, the full name of the author (trainee), the name of the institution where the work was performed
- b). **Abstract page**
The abstract should include the following headings:
For clinical/laboratory investigations:
 - (i) Objective
 - (ii) Design
 - (iii) Patients/subjects
 - (iv) Interventions
 - (v) Measurements and Main Results
 - (vi) Conclusions*For review or audit papers:*
 - (i) Objective
 - (ii) Data Sources
 - (iii) Study Selection
 - (iv) Data Extraction
 - (v) Data Synthesis
 - (vi) Conclusions
- c). **Introduction**
- d). **Materials and Methods**
- e). **Results**
If any results are presented in the text, these must not be duplicated in the figures/tables section.
- f). **Discussion**
This section of the text should interpret the results without unnecessary repetition. References to related studies should be included in this section.
- g). **Acknowledgements**
- h). **References**
Should be cited in sequential order in the text and typed on a separate sheet. Identify references in the text, legends or tables by Arabic numerals in parentheses. Titles of journals should be set in italics and stated in full. Use inclusive page numbers (e.g. pp 1-10) for all references. For guidance on the format, refer to the 6 January 1996 (pp. 41-43) issue of the British Medical Journal (No. 7022, volume 312).
- i). **Copy of dissertation summary**
As originally submitted.
- j). **Tables and Abbreviations**
Tables should be typed single-spaced on a separate page. Each table should have an Arabic number and a descriptive title. Tables should not repeat material stated in the text. Tables must be referenced in sequential order in the text. Abbreviations should be identified in a footnote to the table. Footnoted information should be referenced using italicised, superscript, lower case letters, i.e. ^{a,b}. (Further advice on abbreviations on p.4).
- k). **Figures**
Must be clearly reproduced in each copy of the dissertation. Figures must be

referenced sequentially in the text.

In General

1. Manuscripts should be typewritten on white A4 plain paper (21cm x 29.5cm). *Typing should be double-spaced with margins of 2.5cm on all sides.*
2. All pages should be consecutively numbered, beginning with the title page.
3. All photocopies (including figures, tables and computer print-outs where appropriate) should be clearly legible.
4. In general, abbreviations should be avoided since their frequent use makes the dissertation difficult to read. However, there are universal abbreviations which do not need to appear in full on first mention such as:

ECG, BP, ASA, APACHE, SD, SEM, ANOVA, pH, S_pO_2 , F_{IO_2} , 95% CI

Other abbreviations should be written in full on their first mention and should be included in a glossary at the end of the dissertation.

A Guide for Biological and Medical Editors and Authors (Baron, 1988) lists also the abbreviations which may be used by authors without previous definition of their meaning. As noted above, all other abbreviations must be defined, once in the summary and once in the text.

In addition, the 'Pappenheimer' system of abbreviations of respiratory terms¹ is acceptable without definition.

5. Use SI units where appropriate. Blood pressure should be given in mmHg and ventilation pressures in cmH_2O .

Manufacturers

Provide in parentheses the model number, name of manufacturer, their city and country, for all equipment used in the paper. Only generic drug names should be used.

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¹ Pappenheimer JR, Comroe JH, Cournand A, Ferguson JKW, Filley GF, Fowler WS, Gray JS, Helmholtz HF, Otis AB, Rahn H, Riley RL. Standardisation of definitions and symbols in respiratory physiology. *Federation Proceedings* 1950; **9**: 602-605

ADVICE ON PLANNING AND PREPARATION OF DISSERTATION FOR CANDIDATES INTENDING TO SIT THE DIPLOMA OF INTENSIVE CARE MEDICINE

1. Candidates are each required to present a dissertation of 4,000 to 6,000 words. The document itself should be anonymous, but covered by a separate page repeating the title and candidate's details. The aim of the dissertation is to show that the candidate has studied a topic in depth, and has developed skills in analysis, synthesis and evaluation.
2. The standard for a review or research topic should be that which would be found acceptable, with appropriate editing, for publication in a peer reviewed indexed journal, for instance *Intensive Care Medicine*.
3. Submit dissertations and summaries electronically via www.ibticm.org
4. Candidates *must* discuss their chosen topic with their Intercollegiate Board Tutor and Regional Advisor (RA) in ICM, as well as their chosen dissertation supervisor (who may be their Tutor or RA) before they submit an outline to the Board of Examiners, who act on behalf of the Intercollegiate Board for Training in Intensive Care Medicine.
5. The Board of Examiners advises Candidates to ensure that they make full use of the advice given to them by their Tutor, Regional Advisor in ICM and chosen supervisor, who should be fully aware throughout of the Candidate's progress.
6. Candidates should adhere to the Guidelines on Structure specified in Appendix 1 of the Examination Regulations and Information, and the Syllabus, prepared by the Intercollegiate Board. Copies are held by the Tutor and the Regional Advisor in ICM.
7. Dissertations should have a clear structure, specifying the nature of the topic, the reasons for its choice, the areas to be explored and the methods used. The dissertation should be focused, and not be of too general a nature: the intention is that the Candidate presents a small topic at reasonable depth rather than a superficial review of a broad topic, which might be over ambitious. The assistance of the Tutor, Regional Advisor in ICM and chosen supervisor should be sought regularly.
8. For a review, the methods by which reviewed publications were identified should be stated. The references should be up to date.
9. For a research paper, the reasons for choosing the topic should be stated, and the key questions that are to be addressed must be stated unambiguously. The research method must be outlined and critiqued. Results must be clearly stated with appropriate statistical analysis. The results must be analysed in the manner of the discussion of a paper in a peer reviewed journal. The relevance and significance of the research must be discussed.
10. Should Examiners find a dissertation of marginal standard, it may be returned to an otherwise successful Candidate for revision and re-presentation prior to allowing the award of the Diploma.
11. Should a Candidate fail to reach an adequate standard, his/her Regional Advisor in Intensive Care Medicine will be given details of the area(s) that the Examiners thought needed attention.
12. A refined example of a successful Dissertation has been published: Wyncoll DL. Acute necrotizing pancreatitis. *Intensive Care Medicine*. 1999; 25: 146-156.

13. The Examiners have suggested a number of criteria which should be applied to Candidates' choice of dissertation supervisor; these are set out on the following page, together with the suggested responsibilities of the supervisor. Also included in the following pages is guidance on the objectives of the dissertation and the criteria against which the dissertation will be assessed.

Authorship

The dissertation should be largely the work of the individual submitting the dissertation. It is accepted that with many pieces of work particularly in research and audit several individuals may be involved and indeed the dissertation may be based on that joint work, but the written dissertation itself should be the work of the individual sitting the examination. If others have been involved it should be acknowledged and their permission sought to use their work in the dissertation.

There is now space on the front sheet of the application to state the applicant's specific contribution to the planning, conduct, and reporting of the work described and to acknowledge those who might also have been involved and their contribution. It is implicit that their permission has been sought and a statement to that effect should be made.

Any reference to authorship necessary should be made in the cover sheet to the dissertation – the intention is that the dissertation itself should be ready for issue to Examiners as an anonymous document.

It may be appropriate to include material from other work in the dissertation, but any use of other authors' work must be acknowledged by clear references in all cases.

GUIDANCE ON SELECTION OF A SUITABLE SUPERVISOR FOR YOUR DISSERTATION

The supervisor

May be your Regional Advisor or Intercollegiate Board Tutor, who otherwise may be able to suggest an alternative appropriate dissertation supervisor;

Should be a consultant with a substantive NHS or academic post;

Should have some knowledge and understanding of, but need not necessarily be an expert in, the chosen topic;

Should have considerable experience of scientific or medical writing and publication;

Should have the time, energy and motivation to provide adequate supervision;

Should be someone whose opinions and advice you will respect;

Should be readily available for discussion and advice;

May be an examiner for the Diploma of Intensive Care Medicine.

Candidates must include the name and contact details of their chosen supervisor when their dissertation summary is submitted.

Responsibilities of the supervisor

To provide close supervision and assistance to the candidate during preparation of the dissertation;

To ensure that the dissertation complies with the guidance provided by the Intercollegiate Board;

To ensure that the standard of writing and presentation is sufficient;

To be readily available for discussion and advice as required.

Overseas candidates

Overseas trainees should discuss their dissertation with a suitable senior trainer, and their dissertation supervisor if appointed.

OBJECTIVES FOR THE DISSERTATION ARE TO ENABLE THE CANDIDATE TO PERFORM

either:

A). REVIEW

1(a). Define a question for review

What is the area of study? Why has this been chosen?
How are you going to approach your study?
Will this be a systematic review?

2(a). Access relevant and up to date resources in the particular area of study

Have you found out what you need to know?
Have you explained why you chose the data sources you used?
Is the text clearly and appropriately referenced?

3(a). Appraise the current status of the field of study

Have you described the issues and drawn out the various conclusions from the literature? Mentioned the key factors?
Have you questioned or supported relevant opinions?

or:

B). RESEARCH OR AUDIT

1(b). Define a question for original research or audit

What is the area of study? Why has this been chosen?
Have you thoroughly researched the background information?

2(b). Design and conduct a study to address the question identified

How are you going to approach your study?
Have you explained why you chose the methods you used?
Is the text clearly and appropriately referenced?

3(b). Present the results to confirm or refute the hypothesis

Have you described the key findings?
Correctly analysed and supported the reliability of the data?

4. Draw own pertinent conclusions from the results of the review or study

Have you demonstrated a logical and sequential argument that shows analysis and synthesis of available data?
Have you evaluated your findings to construct an answer to your original question?

5. Appraise the limitations of the review or study undertaken, and indicate possible future directions in the field of study

Is the available data sufficient to draw a conclusion?
Is there consistency and agreement in the data?
Where are the gaps in our knowledge?

6. Demonstrate written communication skills

Present the work at a level consistent with submission of a critical review for publication in a peer review journal, or to a national grant awarding body.

Assessment criteria for the dissertation on a review:

Criterion 1(a)

Define a question for structured review

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to construct a relevant question	Produces a question that is lacking in reason or relevance or impossible to answer within the format	Produces a satisfactory question for review that is justified and practical to answer	Produces a question for review that is well reasoned, fresh and enlightening	Produces a novel question for review that shows original thinking

Criterion 2(a)

Access relevant and up to date resources in the particular area of study

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to identify any relevant literature	Unfocussed collection of references, and many from textbooks or secondary reviews. Poorly cited in text.	Accessed appropriate sources. Satisfactory references that reflect a standard search and correctly cited	Shows a more extensive search citing more original journal data and logically cited	Has identified the key world literature from the journals relevant to the field of study, and cited it appropriately

Criterion 3(a)

Appraise the current status of the field of study

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to describe the key issues or draw out conclusions from the literature	Limited identification of the main issues and conclusions either because of poor approach or limited database	Identifies the main issues and draws together conclusions from the literature	Identifies the main conclusions and correctly supports these from cited evidence	As merit, but uses the key world literature to draw together the relevant conclusions

Assessment criteria for the dissertation on original research or audit:

Criterion 1(b)

Define a question for original research or audit

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to construct a relevant question	Produces a question that is lacking in reason or relevance or impossible to answer within the format	Produces a satisfactory question for research or audit that is justified and practical to answer	Produces a question for research or audit that is well reasoned, practical, fresh and enlightening	Produces a novel question for research or audit that is well reasoned, practical, and shows original thinking

Criterion 2(b)

Design and conduct a study to address the question identified

Fail	Unsatisfactory	Pass	Merit	Distinction
Lacks any coherent or logical methodology	Method of study that is poorly explained, impractical or unlikely to achieve results	Describes a satisfactory method of study that is justified and correctly referenced	A solid method of study that is well explained and justified from cited literature	Exemplary approach to the method of study that uses best practices and is justified from the world literature

Criterion 3(b)

Present the results to confirm or refute the question

Fail	Unsatisfactory	Pass	Merit	Distinction
Jumble of unconnected results. Lacks any proper application of analytical or statistical methods	Results presented in a pedestrian manner. Poor application or incorrect use of statistical methods.	Presents the main results and correctly applies analytical and statistical methods to support the reliability of the data	Thorough presentation of the results using correct analytical and statistical methods in a clear manner	Clear, precise, non-turgid approach to the presentation that is detailed, systematic and shows critical analysis of the data.

Common assessment criteria for the dissertation:

Criterion 4

Draw own pertinent conclusions from the results of the review or study

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to draw a basic conclusion from the data, or it bears little relationship to the original question	Conclusion lacks logical or sequential arguments although an answer to the original question was attempted	Logical and sequential argument arriving at a reasonable conclusion from the data to address the original question	Draws acceptable conclusions that evaluate the findings to address the original question. Recognise flaws in the data.	Draws valid conclusions that fully evaluate the available data. Directly addresses the original question. Critically identifies flaws in the data.

Criterion 5

Appraise the limitations of the review undertaken and indicate possible future directions in the field of study

Fail	Unsatisfactory	Pass	Merit	Distinction
Unable to discuss significance of findings	Identifies only some of the major issues of significance and lacks ideas for further study.	Identifies major significance and limitations of findings and suggests some further areas of study.	Fully identifies significance and limitations of findings and relates these to further areas of study.	Critically discusses significance and limitations of findings. Suggest feasible and relevant further studies.

Criterion 6

Demonstrate written communication skills

Fail	Unsatisfactory	Pass	Merit	Distinction
An incoherent account that lacks any evidence of structured thought.	Parts are coherent and show evidence of structured thought. Ignores format.	Produces a coherent account of work in the accepted format.	Produces a well-written coherent account in the accepted format.	Produces a well-written and original account that demonstrates inspiration.

USE OF EXPANDED CASE SUMMARIES FROM THE EDUCATIONAL TRAINING RECORD

Copies of the Educational Training Record (ETR) are held by Intercollegiate Board Tutors, Directors of Intensive Care, and Regional Advisors in ICM. With effect from February 2001 the ETR was incorporated (at Part II) of the Intercollegiate Board's guidance on competency-based training in ICM, available on the Intercollegiate Board Website (www.ibticm.org). Individual copies for trainees' use can be reproduced locally, and suitable existing records may be inserted.

The ETR requires the completion of 10 expanded case summaries during intermediate level Specialist Registrar training in ICM (or Step 1 of the CCT in ICM programme). These will be referred to for the purpose of the Diploma examination. In choosing each expanded case summary, it is expected that the candidate will have used each one to study and illustrate some aspect of a patient's clinical problem in-depth. It is also expected that the candidate will select cases with whose management he or she has been closely involved. The description and discussion of the case must be the candidate's own, albeit supervised, work. The Examiner will review the expanded cases in this manner and will expect an awareness of the literature relating to the main problem identified by each "report". Candidates will be required to discuss data interpretation, with reference to the case summaries and also in general terms.

An example of the standard and format is included in the ETR set out in Part II of the guidance on competency-based training in ICM.

1. The expanded case history should examine some aspect of the patient's clinical problem in-depth.
2. Candidates must discuss their selected cases with their Intercollegiate Board Tutor to establish that they are suitable for inclusion.
3. Each case study should examine a different clinical problem, and not describe the same problem beginning from a different aspect. For instance, ten in-depth discussions of similar haemodynamic findings found in Systemic Inflammatory Response Syndrome would not be acceptable, even though on each occasion the patient, insult and outcome were different.
4. Case reports require a clear but simple structure. The report should be clearly focused, providing in-depth discussion rather than a general overview. It should aim to demonstrate how the patient has led you to review and re-think your views of the particular problem. The subheadings are:
 - Clinical problem
 - Relevant management
 - Further information
 - How would you change your future management
 - References
5. It is helpful to provide relevant details of the chemical pathology, haematology, haemodynamic findings, etc. Photographs etc. of images may be of use to illustrate a particular point.
6. Expanded case summaries should be approximately 750 – 1500 words.
7. For each expanded case summary, four to ten references should be given, if applicable.
8. Candidates should consult their Tutor to ensure that reports have demonstrated intellectual rigour.
9. The Board of Examiners advises that Candidates ensure that they make full use of the advice given to them by their Tutor, who should be fully aware of the candidate's progress.
10. Should a Candidate fail to reach an adequate standard, his or her Regional Advisor in ICM will be given details of the general area(s) that the Board of Examiners thought needed attention.