

DISSERTATION WRITE-UP PROTOCOL

(updated by Assoc Prof Dr Shaik Ismail Bux, Feb 2009)

PART 1. INTRODUCTION

This **MANUAL** aims to provide some uniformity for the writing-up of major projects submitted as final assessment for the Master of Radiology. This does not mean that accepted standards of grammar and usage can be overlooked. It is a good idea to go through some of the previous project submissions to have an idea of how it should be done. However please bear in mind that there may have been changes in the format and that you **must abide** accordingly.

The writer is advised to **adhere strictly** to the standards set here. If, for some reason, the writer wishes to depart from these standards, he or she should obtain the formal approval from the current coordinator/ the head of department.

Specimen pages that demonstrate the standards have been included of the relevant areas to assist the writing process.

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PART 2. ORGANIZATION OF THE THESIS

The major project should consist of three principal parts:

- 2.1 Preliminaries
- 2.2 Text
- 2.3 Reference Material

In most projects, each part is subdivided into sections. While some of the sections may not appear in your project, follow the prescribed order regardless of what you submit.

- 2.1 Preliminaries
 - 2.1.1 Title Page
 - 2.1.2 Table of Contents
 - 2.1.3 Disclaimer
 - 2.1.4 Acknowledgements
 - 2.1.5 Abstract
 - 2.1.6 List of Tables
 - 2.1.7 List of Figures
- 2.2 Body of major project including summary and conclusions
- 2.3 Reference Material
 - 2.3.1 Bibliography
 - 2.3.2 Appendix

2.1 Preliminaries

The preliminary materials in a thesis introduce the work to the reader and set the formal tone of the scholarship to follow.

2.1.1 Title Page (Specimen Page, p. 4)

Margins for the title page should be two inches at the top, bottom, and right side of the page, and two and one-half inches for the left side of the page. The three parts of the title page are the title, the author's full name, and a submission statement. Place all materials three spaces to the right of the physical center (approximately 4 1/2 inches from the left edge of the page) so that the title page will be properly centered following binding.

2.1.1.1 Title

The title of the dissertation is in all capitals, with the second and succeeding lines indented on each side of the page so that the title forms an inverted pyramid.

[SPECIMEN PAGE: TITLE PAGE]

A COMPARISON OF TISSUES IN THE STAGING
OF PRIMARY TUMOUR IN
NPC

By
STUDENT'S NAME
M.B.B.S./M.D.
University of Malaya
Kuala Lumpur
Year (of previous degrees)

Submitted to the Department of Radiology
Faculty of Medicine
University of Malaya
in partial fulfillment of
the requirement for
the Degree of
MASTER OF RADIOLOGY
Year (of dissertation)

2.1.1.2 **Author's Full Name** (as used on University records)

The full name of the author as it appears in University records in all capitals and centered follows the title about one and one-half inches below the last line of the title. The author's degrees follow, with the current name of the educational institution granting the degree and the year. The name and the degree are to be centered between the title and the Submission Statement. Double-space for one degree; single-space for two or more degrees with a double-space between degrees.

2.1.1.3 **Submission Statement**

The **Submission Statement** indicates that the work is submitted to partially fulfill degree requirements. Single-space the information, capitalizing the degree, and arrange in an inverted pyramid about one and one-half inches below the date of the last earned degree.

2.1.2 **Table of Contents** (Specimen Page, p. 6)

The **Table of Contents** includes headings for at least all chapter titles, first-level and second-level subheadings, bibliography, and appendix titles. Make certain that the Table of Contents entries correspond exactly with the entries as they appear in the text. In addition to the Table of Contents, prepare lists of tables and figures if they appear in the text.

2.1.3 **Disclaimer** (Specimen Page, p. 8)

This should state that the author did the study and that the author has also done the writing-up.

2.1.4 **Acknowledgements** (Specimen Page, p. 9)

In this page, the writer gives recognition to various parties involved, directly or indirectly, with the research. Specifically, the writer acknowledges the:

- (1) Supervisor's assistance as well as that of other faculty and staff.
- (2) Special contributions (librarians, correspondents, research foundations, and so on)
- (3) Financial support (grants, awards, and so on)

The Acknowledgement may differ significantly in style and tone from the rest of the dissertation because first person, with active voice verbs, is more natural.

2.1.5 **Abstract** (Specimen Page, p. 10)

The **Abstract**, normally written after the completed dissertation, explains information the reader needs to know for a clear understanding of the dissertation. It must be brief (not exceeding 1 page) and follow the structure formatted and be divided into

- A. Purpose
- B. Patients and Methods
- C. Results
- D. Conclusion

[SPECIMEN PAGE: TABLE OF CONTENTS]

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[SPECIMEN PAGE: DISCLAIMER]

DISCLAIMER

I declare that this dissertation records the results of the study performed by me and that it is of my own composition.

.....
(Name of Student)

(Date) – usually that when the dissertation is fully written and ready for submission

[SPECIMEN PAGE: ACKNOWLEDGEMENT]

ACKNOWLEDGEMENT

It is my great pleasure to acknowledge all those people who had given me tremendous help and support in completing this particular project. I would like to thank Professor xxxx (if outside the Department of Biomedical Imaging) of the Nuclear Medicine Division, Department of Medicine for allowing me to undertake this project in the first place, also for his guidance and assistance throughout the course of completing this project.

I am indeed indebted to Staff Nurse ABC and Mrs. AL for their help in recruiting volunteers for this study and to the staff of the Nuclear Medicine Division - Mr. SHY, Encik A, Ms L, Madam S, etc for their assistance in handling of more than 300 respondents during the whole duration of this study. I would also like to express my thanks to all the CDL staff who had to cope with the extra blood samples. My very special thanks to all my colleagues, who helped me to be more 'computer-literate', and to those who had volunteered for the study as well. Last, but not least, to all my (name of husband/wife) and (name of children) who have been my pillar of strength throughout the period of this study. (You can also add divine thanks in your own way).

[SPECIMEN PAGE: ABSTRACT]

ABSTRACT

Objective:

To compare the value of single photon emission tomography (SPECT) in patient with low back pain.

Patients & Methods:

In this study, we compared the plain radiographs and CT scans with planar and single photon emission computed tomography (SPECT) bone scintigraphy in 26 patients with low back pain.

Results:

CT scans were more sensitive than plain radiographs when used to depict morbid anatomy CT scans were abnormal in 18 patients while plain radiographs were abnormal only in 14 patients and CT scans detected 36 lesions as compared to 23 lesions in plain radiographs. SPECT scintigraphy allowed accurate localization of active bone lesions in 19 patients with 40 lesions detected. Planar imaging only detects 11 lesions in 8 patients.

Conclusion:

It is probable that active SPECT lesions with corresponding CT/radiographic lesions represent the cause of patient's pain. The SPECT lesions without corresponding CT/radiographic lesions may represent an early manifestation of a forming degenerative disease or a stress fracture or active articular facet disease not visualized in CT scan. An abnormality detected in CT scan with no increased activity in SPECT could be an old asymptomatic lesion. SPECT is insensitive in picking up pathologic lesion without any significant changes in the bone metabolism e.g. disc herniation alone. The addition of SPECT scintigraphy, if available, in selected group of patients may actually result in an overall reduction of cost and risk to patient. A correct and prompt diagnosis will avoid other unnecessary investigations and possibility a spinal surgery.

[Reminder: The abstract page should not exceed 1 page long]

2.1.3.1 **Style**

Center the heading, TABLE OF CONTENTS, two inches from the top of the page and in all capital letters.

2.1.3.2 **Placement**

Place Chapter at the left margin three lines below the heading. Place Page at the right margin three lines below the heading. Chapter headings, written in capital letters, begin two lines below Chapter, with carryover single-spaced and aligned with the first letter of the title. Align the period following the Roman numeral with the “t” of Chapter. Use leader dots (spaced periods) to fill the line. Make certain that the periods are aligned.

2.1.3.3 **Subtitles**

Double-space between chapter titles and subtitles, with single-spacing between subtitles. Use upper and lower case letters for the subtitle except for articles, conjunctions, and prepositions of fewer than four letters. Indent the subtitles five spaces from the beginning of the chapter heading. Single-space carryover and indent two spaces from the first letter of the subtitle. Should you use a second-level subtitle, single-space and indent five spaces from the beginning of the first-level subtitle. Indent two spaces for any carryover.

2.1.3.4 **Appendix**

Use all capital letters for titles of appendix material. If the appendix title is more than one line, single-space and begin immediately below the first letter of the preceding line.

2.1.4 **List of Tables** (Specimen Page, p. 13)

Follow the same arrangements for the List of Tables as you did with the Table of Contents, changing the Table of Contents and Chapter to List of Tables and Table.

2.1.4.1 Numbering

Use Arabic or Roman numerals to number all tables and number in the order in which they appear in the project paper as a whole - not within a chapter or appendix. Be consistent in numbering style.

2.1.4.2 Titles

Use upper and lower case letters for titles - capitalizing the first letter of each major word (see 2.1.3.3) Subtitles for what constitutes a major word). Single-space within the title and double-space between titles. Indent any carryover two spaces past the first letter of the first line.

2.1.4.3 Order

The List of Tables page follows the Table of Contents page, beginning on a new page.

2.1.4.4 Coordination

The author is responsible for coordinating all titles and numbers on the List of Tables with those in the project paper.

2.1.5 List of Figures (Specimen Page, p. 14)

Follow the same arrangement for the List of Figures as you did for the List of Tables, substituting Figures for Tables as a heading.

2.1.5.1 Numbering

Use Arabic numerals to number all figures, numbering in the order in which the figures appear in the dissertation as a whole - not within a chapter or appendix.

[SPECIMEN PAGE: LIST OF TABLES]

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2.2 **Body of the Dissertation Including Summary and Conclusions**

The body of the major project presentation is the format of specific chapters.

Chapter 1 INTRODUCTION: Should be a brief introduction of the topic.

Chapter 2 OBJECTIVES: This should list the general and specific objectives of the research project.

- Chapter 3 LITERATURE REVIEW: The literature of the subject should be reviewed and the deficiencies in the present knowledge discussed.
- Chapter 4 PATIENTS & METHODS: The research methodology including the period of study the imaging protocol, inclusion/exclusion criteria as well as the grading system should be presented. The statistical analysis used must be written.
- Chapter 5 RESULTS: This should be covered in this chapter.
- Chapter 6 DISCUSSION: The findings of the research project should be compared with previous work if any. The relevance of these findings to the practice of radiology should be discussed.
- Chapter 7 LIMITATIONS & FURTHER RESEARCH: Any limitation of the previous work as well as suggestions for future work is required to be presented.
- Chapter 8 CONCLUSIONS: All firm conclusion which can be drawn from the research work should be stated.

2.2.1 **Heading, Titles, and Subtitles** (Specimen Page, p. 18-20)

The first page of the Preface, the Table of Contents, the List of Tables, the List of Figures, the various chapters, the bibliography and the appendices all begin with a heading. For such pages, center the heading in all capital letters two inches from the top of the page. Chapter titles as well as any of the several levels of subtitles must not extend more than four inches across the page. Any chapter and appendix title carryover is double-spaced and centered in inverted pyramid style. Other levels of subtitles are double-spaced, with a triple-space on either side. Carryover of the first level subtitle is placed in inverted pyramid style. Carry over for second and third levels are aligned under the first letter of the first word of the subtitle.

Clearly, a title and subtitle system that aids the reader in understanding the project requires attention to detail and consistency. The author's responsibility is, in fact, to see to that detail and consistency, assisting the reader in understanding the relationships of the various headings provide.

2.2.2 **Layout of Body**

Double-space the main text of the dissertation with at least a one inch margin at the top, bottom, and right edges, and a margin of one and one-half inches for the left edge (to accommodate binding). Start each chapter on a new page with the heading two inches from the top of the page. Type CHAPTER, number, and chapter title in all capitals, double-spacing and centering in inverted pyramid style for all carry over lines. Triple-space between chapter number and title, and between chapter title and body.

[SPECIMEN PAGE : SPECIFIC PROPOSITION]

2. OBJECTIVES

2.1 General Objective

To determine the bone mineral density (BMD) of the normal Malaysian population of both sexes using the locally available Dual Photon Absorptiometric (DPA) method.

2.2 **Specific Objective**

- 2.2.1 To see the difference in normal range of bone density between the male and female Malaysian population.
- 2.2.2 To compare the difference in bone density values between the 3 local ethnic groups studied.
- 2.2.3 To determine the age at which the bone mass peaks in both the male and female population.
- 2.2.4 To see whether variables such as height and weight has any significant effect on the bone mass.
- 2.2.5 To compare differences in BMD values between pre and post-menopausal women in the study population.

2.2.1.3 **Subtitles**

Treat subtitles according to the number of levels (two, three, or four) required to help the reader understand the material.

Two Levels. For two levels of subtitles, center the first and capitalize the major words (see section “2.1.3.3 Subtitles” for what constitutes a major word). Do not underline the subtitle. Place the second level subtitle flush left, again capitalizing only the major words, and underlining it.

Three Levels. Should you need three levels of subtitles, follow the same arrangements for levels one and two above, placing the third level as a paragraph heading indented five spaces and followed by a period. Underline this third level subheading.

Four Levels. Should you need four levels of subtitles, indent the third level subtitle five spaces, capitalize only the major words, underline, and insert a carriage return. The fourth level of subtitle becomes the paragraph heading (indented five spaces, each major word capitalized, underlined and followed by a period and the start of the paragraph).

[SAMPLES OF SUBTITLE LEVELS]

Three Levels

CHAPTER [NUMBER]

(Triple-Space)

[CHAPTER TITLE]

(Triple-Space)

[1st Level Subtitle]

[2nd Level Subtitle] (Triple-Space)
[3rd Level Subtitle] (Text follows immediately) (Triple-Space)

Four Levels

CHAPTER [NUMBER] (Triple-Space)
[CHAPTER TITLE] (Triple-Space)
[1st Level Subtitle] (Triple-Space)
[2nd Level Subtitle] (Triple-Space)
[3rd Level Subtitle] (Triple-Space)
[4th Level Subtitle]. (Text follows immediately)

2.2.1.4 End of the Page

Regardless of the number of levels of subheadings you use, always provide at least one line of text following the subtitle at the bottom of the page.

2.2.1.5 Page Numbers

Number all front matter pages with lower case, roman numerals (count but do not number the title page; do not count or number abstract page). Number all text pages with Arabic numbers.

Number all appendix pages with Arabic numerals.

2.3 **Reference Material**

The Reference Material includes the bibliography and appendix material. This material supplements the dissertation content, aiding the reader in understanding.

2.3.1 **Bibliography** (See also 3.1 Bibliography)

The Bibliography lists all materials the author found useful in preparing the dissertation. It follows the end of the dissertation and usually contains an alphabetical listing of references. The dissertation precedes the Appendix.

2.3.1.1 **Layout**

Center the heading, **BIBLIOGRAPHY**, in all capitals two inches below the top of the page. It follows the layout specified by the appropriate style manual.

2.3.2 **Appendix** (pp. 22-24)

An Appendix contains material too detailed for inclusion in the body of the dissertation. Refer to it in an appropriate place in the text.

2.3.2.1 **Titles**

When you include diverse materials, begin each class on a new page under a different title. If you have only one appendix, entitle it **APPENDIX**. Treat the title the same as you would a chapter title. If you include material such as a computer printout, you may wish to use a cover page for each printout with both the appendix designation and title centered on the page. If you do use a cover

page, use cover pages for each of the appendices. You may use a cover page at the beginning of all appendices with **APPENDICES** centered.

[SPECIMEN PAGE : APPENDIX MAIN COVER PAGE]

APPENDICES

[SPECIMEN PAGE : APPENDIX SPECIFIC COVER PAGE]

APPENDIX D

SUBJECT QUESTIONNAIRE

[SPECIMEN PAGE : APPENDIX BODY]

APPENDIX A

Division of Nuclear Medicine
Dept. of Medicine
University Hospital
Kuala Lumpur

BMD STUDY

SUBJECT QUESTIONNAIRE

A: PERSONAL DATA

- 1) NAME : _____
- 2) AGE/DOB : _____
- 3) NRIC : _____
- 4) SEX : M ☐ F ☐ - Menarche _____ Age _____
- Premenopausal _____
- Menopausal _____
- Specify _____
- 5) OCCUPATION : Professional _____
: Non-professional _____
- 6) HEIGHT (metre) : _____ WEIGHT (kg) : _____
- 7) FEMALE - PARITY _____

B: CLINICAL DATA

1. PERSONAL HABITS

SMOKING - Non-smoker _____
- Smoker Previous when stop _____
Active - frequency _____
- type _____

ALCOHOL - Non-drinker _____
- Social - No. of glasses / day / week _____
- Habitual - _____
- Previous drinker - when stopped _____
- Type of beverage _____

2.3.2.2 Headings

Follow the same procedures for headings in the appendix as you followed for headings in the chapters.

2.3.2.3 Numbering

Identify each appendix with a capital letter (APPENDIX A, APPENDIX B, APPENDIX C, and so on) if you have more than one appendix. Number the pages, figures, and tables sequentially as part of the dissertation.

PART 3. DOCUMENTATION

All authors must document their dissertation; that is, they must make exact references to authoritative sources to substantiate the statements they make. The commonly accepted method for such referencing is the bibliography. In some cases, additional information appears as a content footnote.

3.1 Bibliography (Specimen Page, p. 26-28)

Assemble the various references that have been helpful in preparing the dissertation (including not only those cited in the text, but also any others that were in some way helpful). Do not, however, pad the bibliography - possibly the most common fault in this species of writing.

Place the bibliography at the end of the dissertation, before the Appendix (if used). Only those works cited in the text should appear in the bibliography. Number references in the order in which they are mentioned in the text. Identify the references in the text, table and legends in Arabic numerals in parenthesis. Use style of the index medicus.

Center the heading in all capitals two inches below the top of the page. Normally, begin the listing a triple-space below the heading with the first letter of the first word at the left margin. Proceed through the listing following the style manual.

3.2 **Footnotes**

Because most documentation systems use some form of internal citation (author, date, for example), footnotes provide supplemental explanations for text materials. For example, they can define more fully terms appearing in the text whose definition would interrupt the reader. They can provide tangential information that would aid some but not all readers. Consult the appropriate style manual for how to place and use content footnotes.

You may use either footnotes for crediting sources or in-text referencing, but not both.

[SPECIMEN PAGE : BIBLIOGRAPHY]

Examples of correct forms of references – the Vancouver style of listing is recommended for uniformity

Articles in journals

- (1) *Standard journal article* (List all authors, but if the number exceeds three, give first three names followed by *et al*) You CH, Lee KY, Chey RY, et al. Electrogastrographic study of patients with unexplained nausea, bloating and vomiting. *Gastroenterology* 1980; 79(2): 311-4.

As an option, if a journal carries continuous pagination throughout a volume the month and issue number may be omitted.

You CH, Lee KY, Chey RY, et al. Electrogastrographic study of patients with unexplained nausea, bloating and vomiting. *Gastroenterology* 1980; 79: 311-4.

(2) *Organisation as author*

The Royal Marsden Hospital Bone-marrow Transplantation Team. Failure of syngeneic bone-marrow graft without precondition in post-hepatitis marrow aplasia. *Lancet* 1977; 2: 742-4.

(3) *No author given*

Coffee drinking and cancer of the pancreas (editorial). *Br Med J* 1981; 283: 628.

(4) *Article in foreign language*

Masonne L, Boghi S, Prestarino A, Piccini R, Gambini C. Localisations palmaires purpuriques de la dermatite herpétiforme. *Ann Dermatol Venerol* 1987; 114: 1545-7.

(5) *Volume with supplement*

Magni F, Rossoni G, Berti F. BN-52021 protects guinea-pig from heart anaphylaxis. *Pharmacol Res Commun* 1988; 20 Suppl 5: 75-8.

(6) *Issue with supplement*

Gardos G, Cole JO, Haskell D, Marby D, Paine SS, Moore P. The natural history of tardive dyskinesia. *J Clin Psychopharmacol* 1988; 8 (4 Suppl): 31S-37S.

(7) *Volume with part*

Hanly C. Metaphysics and innateness: a psychoanalytic perspective. *Int J Psychoanal* 1988; 69 (Pt 3): 389-99.

(8) *Issue with part*

Edwards L, Meyskens F, Levine N. Effect of oral isotretinoin on dysplastic nevi. *J Am Acad Dermatol* 1989; 20(2 Pt 1): 257-60.

(9) *Issue with no volume*

Baumeister AA. Origins and control of stereotyped movements. *Monogr Am Assoc Ment Defic* 1978; 3: 353-84.

(10) *No issue or volume*

Danock K. Skiing in and through the history of medicine. *Nord Medicinhist Arsb* 1982; 86-100.

(11) *Pagination in Roman numerals*

Ronne Y. Ansvarsfall. Blodtransfusion till fel patient. *Vardfacket* 1989; 13: XVI-XXVII.

(12) *Type of article indicated as needed*

Spargo PM, Manners JM, DDAVP and open heart surgery [letter]. *Anaesthesia* 1989; 44: 363-4.

Fehrman SA, Joiner KA. Binding of the third component of complement C3 by *Toxoplasma gondii* [abstract]. *Clin Res* 1987; 35: 475A.

(13) *Article containing retraction*

Shishido A. Retraction notice: Effect of platinum compounds on murine lymphocyte mitogenesis [Retraction of Alsabi EA, Ghalib ON, Salem MH. In: Jpn Med Sci Biol 1979; 32: 53-65]. Jpn J Med Sci Biol 1980; 33: 235-7.

(14) *Article retracted*

Alsabti EA, Ghalib ON, Salem MH. Effect of platinum compounds on murine lymphocyte mitogenesis [Retracted by Shishido A. In: Jpn Med Sci Biol 1980; 33: 235-7]. Jpn J Med Sci Biol 1979; 32: 53-65.

(15) *Article containing comment*

Piccoli A, Bossatti A. Early steroid therapy in IgA neuropathy: still an open question [comment]. Nephron 1989; 51: 289-91. Comment on Nephron 1988; 48: 12-7.

(16) *Article commented on*

Kobayashi Y, Fujii K, Hiki Y, Tateno S, Kurokawa A, Kamiyama M. Steroid therapy in IgA nephropathy: a retrospective study in heavy proteinuric cases [see comments]. Nephron 1988; 48: 12-7. Comment in: Nephron 1989; 51: 289-91.

(17) *Article with published erratum*

Schofield A. The CAGE questionnaire and psychological health [published erratum appears in Br J Addict 1989; 84: 701]. Br J Addict 1988; 83: 761-4.

Books and other monographs

(18) *Personal author(s)*

Colson JH, Armour WJ. Sports injuries and their treatment. 2nd rev. ed. London: S Paul, 1986.

(19) *Editor(s), compiler as author*

Diener HC, Wilkinson M. editors. Drug-induced headache. New York: Springer-Verlag, 1988.

(20) *Organisation as author and publisher*

Virginia Law Foundation. The medical and legal implications of AIDS. Charlottesville: The Foundation, 1987.

(21) *Chapter in a book*

Weinstein L, Swartz MN. Pathologic properties of invading microorganisms. In: Sodeman WA Jr, Sodeman WA, editors. Pathologic physiology: mechanisms of disease. Philadelphia: Saunders, 1974: 457-72.

(22) *Conference proceedings*

Vivian VL, editor. Child abuse and neglect: a medical community response. Proceedings of the First AMA National Conference on Child Abuse and Neglect: 1984 Mar 30-31; Chicago, Chicago: American Medical Association, 1985.

(23) *Conference paper*

Harley NH. Comparing radon daughter dosimetric and risk models. In: Gammage RB, Kaye SV, editors. Indoor air and human health. Proceedings of the Seventh Life Sciences Symposium: 1984 Oct 29-31; Knoxville (TN). Chelsea (MI): Lewis, 1985: 69-78.

(24) *Scientific and technical report*

Akutsu T. Total heart replacement device. Bethesda (MD): National Institute of Health. National Heart and Lung Institute, 1974 Apr Report No.: NIH-NHLI-69-2185-4.

(25) *Dissertation*

Youssef NM. School adjustment of children with congenital heart disease (dissertation). Pittsburgh (PA): Univ of Pittsburgh, 1985.

Other published material

(26) *Newspaper article*

Rensberger B, Specter B. CFCs may be destroyed by natural process. The Washington Post 1989 Aug 7, Sec A: 2 (col 5).

Unpublished material

(27) *In press*

Lillywhite HB, Donald JA. Pulmonary blood flow regulation in an aquatic snake. Science. In press.

PART 4. INSTRUCTIONS CONCERNING FORMAT

Organize and arrange the dissertation so as to present an appearance appropriate to such a scholarly document. Carefully balance each page when arranging the material to assist the reader. Dissertation with interlineations, strikeovers, and similar irregularities are not acceptable. Carefully proof read the dissertation page by page to ensure uniform appearance and content correctness. See also page 6 that summarizes the arrangement of the dissertation parts.

4.1 Typing or Electronic Manuscript Preparation

Dissertations may be prepared by typing or using electronic preparation (word processing, computers, and so on). Type size should be equivalent to **elit** [12 pitch] **or pica** [10 pitch] (except in some cases where smaller type may be necessary in a table or other visual or when the visual is photographically reduced).

If you use electronic production means, observe the following conventions:

- A. Use a letter-quality printer.
- B. Use a printer that prints descenders below the line (a descender is that part of the letter that normally extends below the line. For example, the letters “g”, “j”, “p”, “q”, and “y” all have descenders).

4.2 **Margins and Indentations**

Margins are not less than one inch for the top, bottom, and right sides and one and one-half inches for the left side. For the first page of a chapter, use a two inch top margin. Keep the right margin as even as possible with justifying. Avoid more than two words hyphenated consecutively. Indent paragraphs five spaces from the left margin.

4.3 **Miscellaneous Layout Specifications**

Page numbers align at the bottom centers of the page, four lines down.

Place a maximum of 27 lines of double-spaced text on each page, with a minimum of two lines of double-spaced material.

4.4 **Binding**

The dissertation should be submitted in 4 copies with 3 copies in hardcover and 1 copy in soft cover. The colour must be in maroon with gold lettering. The layout must follow that of the title page (see sample).

The rib of the bound copy should state the following from top to bottom:

M Rad. Case Reports/Major Project Name Year of Submission

4.5 **Abbreviations & Symbols**

Only standard abbreviations should be used. Abbreviations should be avoided in the title or abstract. The full term of the abbreviation should precede its first use unless it is a standard unit of measurement. Symbols and abbreviations should be those used by British Chemical & Physiological Abstracts. Weights, volumes, etc. should be in metric units. The use of S.I. units (International System of Units) is encouraged.

PART 5. VISUALS

Visuals consist of materials that supplement the text and present in a form more easily grasped complex relationships that would normally require lengthy explanation. Visuals consist mainly of three types:

- A. Tables
- B. Figures (an all-inclusive term covering non-table visuals)
- C. Equations

5.1 **Tables** (Specimen Page, p. 34)

Tables consist of data arranged in horizontal and vertical rows. The data may be numeric, verbal, or a combination. Tables may be included in the text or presented separately, depending on the reader's needs. If you place a table in the text, incorporate it as closely as possible to the point at which you refer to it (normally, at the end of the paragraph in which you first mention it). When space on the page does not permit you to do this, continue the text and place the table on the next page at the end of the first completed paragraph. (Always let your reader know where to find tables that are not on the same page as first mentioned). Should circumstances suggest, you may place each table on a separate page.

Allow at least a one and one-half inch margin for the left margin and a one-inch margin for the other sides of the table. Center the heading **TABLE** followed by an appropriate Arabic or Roman numeral. Double-space between the heading and the title. Provide a full title, in all capitals, double-spaced above the table. Arrange any carry over in inverted pyramid style, single-spacing.

Organise the material in the table with your reader in mind. Allow quick and unambiguous access to the information. To that end, prepare the table in as large a format as possible. You may, if necessary, turn the table a quarter turn to accommodate the information, but put the top of the table on the left side (the side bound).

You may rule tables only horizontally. And the sides must not be closed. The horizontal rules should be kept to a minimum. No ventrical lines or shade should be used. All abbreviation used in the table should be explained.

Should you need to extend a table onto another page, number the table as before, but add (continued) after the number, and center the unit on the page a double-spacing above the table. Do not repeat the title. Close the table only on the last page of the table. Do not reduce tables more than 50%,

however, and add the label, number, and title after reduction. As always, consider the reader when designing tables.

Treat computer-generated tables as tables and other computer-generated material (such as printouts of programs) as figures. When providing a source for the information on a table, always place a full citation on the table (using appropriate citation form). It often happens that a table will be copied from a dissertation to be used for another purpose, and if the citation is not on the table, the reference will be lost. Also, should you use content footnotes for the table, be certain to use lower case letters in a superscript position rather than superscript numbers. With numerical data, a superscript number may be interpreted as an exponent.

SPECIMEN PAGE: TABLES

TABLE 1 (A)

SAMPLE SIZE : MALES (83) BREAKDOWN TO AGE GROUP

| Age Group | Sample | |
|------------------|---------------|----------|
| | n | % |
| 20 - 29 | 15 | 18.07 |
| 30 - 39 | 21 | 25.30 |
| 40 - 49 | 24 | 28.92 |
| 50 - 59 | 7 | 8.43 |
| 60 - 69 | 16 | 19.28 |
| Total | 83 | |

TABLE 1 (B)

MALE SAMPLE ACCORDING TO ETHNIC GROUPS

| Age Group | MALAY | | CHINESE | | INDIAN | |
|------------------|--------------|----------|----------------|----------|---------------|----------|
| | n | % | n | % | n | % |
| 20 - 29 | 9 | 33.33 | 4 | 11.11 | 2 | 10.00 |
| 30 - 39 | 6 | 22.22 | 10 | 27.78 | 5 | 25.00 |
| 40 - 49 | 11 | 40.74 | 8 | 22.22 | 5 | 25.00 |
| 50 - 59 | 0 | 0.00 | 5 | 13.89 | 2 | 10.00 |
| 60 - 69 | 1 | 3.71 | 9 | 25.00 | 6 | 30.00 |
| Total | 27 | | 36 | | 20 | |

Keynote: n = sample size

5.2 **Illustration** (Specimen Pages, pp. 37)

All illustrative materials other than tables are considered figures. These may include charts, graphs, drawings, photographs, or formulas. They also help the reader understand the material in the text. If photographs are used then all 4 copies submitted must be originals and not photocopies of the photograph. The dimension of the photograph should not exceed 16 cm in width. The staff at Medical Illustration Unit is aware of the standard dimensions used. Symbols, arrows or letters used in the illustration must be clearly visible.

For photographs of subjects, either the subject not is identifiable or there must be written permission to use the photograph.

Illustrations should not be excessive and limited to those, which are essential in the overall presentation of the work and limited to those referred to in the text. Illustrations may be either in black & white or colour. Figures of one series e.g. 1a, 1b and 1c should be of the same height / width. The tonal relations of the original radiograph should be reproduced i.e. which bones with black soft tissue. The orientation of the images should follow the convention i.e. the patients right on the observer left, CT / US / MRI should be displayed as “viewed from below” for axial image and the cephalad orientated to the left of the observer for sagittal and coronal views. Try and keep the size of the illustration to show only the area (s) of interest with enough surrounding area for orientation purpose.

Figures may be scanned to the computer and printed onto the page provided that the image quality is satisfactory. This may actually reduce the thickness of the publication. Please remember that you may need to make slide of these image for your presentation. Therefore it is a good idea to convert some of the image to slide while doing the prints. Otherwise unnecessary time may be wasted.

A legend should accompany for each illustration. A should not duplicate the material in the text.

If symbols, arrows, numbers or letters are used to identify parts of the illustration, each should be explained carefully in the accompanying legend.

Line drawings should be professionally drawn. Freehand writing is unacceptable.

These materials have the heading Figure in upper/lower case followed by a number (Arabic) and the title (upper/lower case letters). Heading, number, and title are placed a double-space below the figure and do not extend beyond the side margins of the figures. Single-space any carryover, and indent two spaces from the beginning of the title.

Incorporate the figures as closely as possible to the point in the text at which you make the first reference. You may decide to present the figures in an Appendix, in which case, make certain you have told the reader where to find them.

Should you need to insert lines and symbols, do so neatly using black ink.

Provide at least a one-inch margin for the top, bottom, and right sides of the figure, with an inch and a half for the left side. You may rotate the figure a quarter turn on the page, but put the top of the figure on the left side (the side bound). Material attached to a page (by glue or dry mount) must be appropriately positioned and attached. Do not place any figures on the page facing the text.

5.3 **Equations** (Specimen Page, p. 38)

If using equations, follow the appropriate style manual for placement and numbering practices. Make certain that all equations are consistently presented in the dissertation.

[SPECIMEN PAGE: FIGURES]

(Example A)

Figure 5. MRA of Dural Venous Sinus Showing Thrombosis of the Left Transverse Sinus

(Example B)

Figure 1 (A). Male Population - Age Group vs Sample Size

Figure 1 (B). Male Population - Sample Size vs Ethnic Group

[SPECIMEN PAGE: EQUATIONS]

$$\begin{aligned}
 t^1 &= \text{the air inlet temperature} \\
 t^2 &= \text{the air outlet temperature}
 \end{aligned}$$

One difficulty, which arises, is that the outlet air temperature is not known at this point but may be estimated from the following equation.

$$t^2 = t^1 + \left[\frac{(u_o + 1)}{10.0} * \left(\frac{(T^1 + T^2)}{2} - (t^1) \right) \right] \quad (89)$$

where the overall heat transfer coefficient, u_o , is estimated from Table V. Then the calculations proceed until u_o that is guessed is equal to u_o calculated.

Next the configuration correction factor is calculated. To find F_t , the correction factor for the logarithmic mean temperature difference, the following equations are used as given by Pigorini (11).

$$A = [T^1 - T^2]^2 + (t - t^2)0.5 \quad (90)$$

$$B = [(T^1 - t^2)^{1/2} + (T^2 - t^1)^{1/2}] \quad (91)$$

$$CLMTD_1 = \frac{A}{\left(\ln \left(\frac{B + A}{B - A} \right) \right)} \quad (92)$$

where

$$= 1.7$$

For a single pass exchanger

$$F_t = \frac{CLMTD_1}{LMTD} \quad (93)$$

PART 6. LIMITATIONS OF STUDY (Specimen Page, p. 37)

This should appear before the bibliography and appendices. The object of this is to state what the shortcomings of the present research project were and what steps could be taken to overcome them and then to state what further research question can be generated from the results of the present study.

The shortcomings can be sub divided into separate section for e.g. the sample population the method of acquiring data as well as the analysis of data.

[SPECIMEN PAGE: LIMITATIONS]

6.1 LIMITATIONS OF STUDY

There were some teething problems encountered in the initial part of our study as no similar work had been carried out before in our centre. These were overcome as we became familiarised with the scanner, improved at recruiting and handling volunteers and became more adept at scanning the respondents.

These limitations can basically be grouped in 2:

6.1.1 Subjects

6.1.1.1 Sex

In general, there were more female than male volunteers in the study population. This may be because the KL population consists of more females or that females are more motivated to come forward for the study. We also note that females of above 40 years are more likely to volunteer as this study is more concerned with their age group.

6.1.1.2 Sample Size

Our smaller number of male volunteers could also be attributed to the fact that active cigarette smokers were excluded, eliminating many of our younger male volunteers. Furthermore, males with minor ailments are less likely to seek treatment at the hospital, hence there were remarkably less respondents of this gender.

6.1.1.3 Ethnicity

Our sample population when divided according to each ethnic group did not enable us to compare differences such as mean BMD values for each range in the respective groups were too small. These variables could probably be looked into with greater detail with a larger sample size.

6.1.2 Methodology

6.1.2.1 **Biochemistry**

Blood samples were taken for each respondent for routine biochemical studies. This was done to ensure as normal a population as possible for the study. As these tests were carried out free of charge, there were a significant number of people who came specifically for these tests, refusing to do the scan.

6.1.2.2 **Scanning**

Because the scanning time with our Polyscanner took about 10 minutes, we were only able to do single scans for our volunteers. At least 2 scans would have been ideal to ensure better precision of BMD measurements.

The determination of the exact vertebral levels for scanning were occasionally difficult especially with very obese volunteers (due to an increase in soft tissue attenuation) and in those with sacralisation of L5 vertebra. This difficulty was overcome by identifying the 12th rib and counting the lumbar vertebrae downward from that point.

Precision of measurement also depends on proper calibration of the absorptiometer. In our study, our technicians to ensure maximum scan accuracy carried out daily calibration with torso phantom (Appendix B) scanning. Even then, small errors due to calibration can be expected.

Decreasing radiation source may also reduce the accuracy of measurement.

PART 7. SELECTED BIBLIOGRAPHY

The following selected bibliography suggests sources you may turn to if you have questions about research, writing, and visuals. It consists of two parts:

- 7.1 Details of style manuals
- 7.2 Sources for further information.

Annotations are minimal because of not only space, but also the explanatory nature of the titles.

The references to grammar and mechanics are also minimal because of the many handbooks available. You will find one grammar book mentioned should you need to solve a fine point. Current dictionaries often provide the latest usage of words, and you should consult them for such matters.

7.1 **Style Manuals** (see 1.0 Introduction)

Achtert WS, Gibaldi J. The MLA style manual. New York: The Modern Language Association of America, 1985.

American Psychological Association. Publication manual of the American Psychological Association. Washington: American Psychological Association, 1983.

CBE Style Manual Committee. CBE style manual: a guide for authors, editors, and publishers in the biological sciences. Bethesda, Maryland: Council of Biology Editors, Inc., 1983.

The Chicago manual of style. Chicago: The University of Chicago Press, 1982.

For a complete listing and discussion of style manuals, see

Howell, Bruce J. Style manuals of the english-speaking world. Phoenix: Oryx, 1983.

7.2 **Selected Bibliography**

Brusaw, CT, et al. Handbook of technical writing. New York: St. Martin's Press, 1987.

Cook, KC. Line by line: How to write and edit your own writing. Boston: Houghton Mifflin Company, 1985.

Day RA. How to write and publish a scientific paper. Philadelphia: ISI Press, 1983.

Garner DL, Smith DH. The complete guide to citing government documents: A manual for writers and librarians. Bethesda, Maryland: Congressional Information Service, Inc., 1984.

Gastel B. Presenting science to the public. Philadelphia: ISI Press, 1988.

Howard GS. Basic research methods in the social sciences. Glenview, Illinois: Scott, Foresman and Company, 1985. See specially Appendix B, "Writing and Research Report" by Solomon PR, pp. B-1 to B-41.

Huth EJ. How to write and publish papers in the medical sciences. Philadelphia: ISI Press, 1982.

Lefferts R. How to prepare charts and graphs for effective reports. New York: Barnes & Noble Books, 1981. Hardcover title: Elements of graphics.

MacGregor AJ. Graphics simplified: how to plan and prepare effective charts, graphs, illustrations and other visual aids. Toronto: University of Toronto Press, 1979.

Quirk R, Greenbaum S. A concise grammar of contemporary english. New York: Harcourt Brace Jovanovich, Publishers, 1973. A later edition planned.

Royal College of Radiologist – A guide to Radiological Research <http://www.rc.ac.uk/enquiries/publications/radres.htm/>

Smith RV. Graduate research: a guide for studies in the sciences. Glenview, Illinois: Scott, Foresman and Company, 1984.

Stock M. A practical guide to graduate research. New York: McGraw-Hill Book Company, 1985.

Warren TL. Technical writing: purpose, process and form. Belmont, California: Wadsworth Publishing Company, 1985.

Williams JM. Style: ten lessons in clarity and grace. Glenview, Illinois: Scott, Foresman and Company, 1985.

PART 8 SUBMISSION OF DISSERTATION

The candidate is to submit the completed dissertation to the department office by the date stipulated in the schedule given by the MRad research coordinator. Your dissertation supervisors will be asked to ascertain whether your completed dissertation meets the requirement to be examined. There are two possible scenarios.

If your dissertation is deemed suitable for examination, it will be read and scored by a panel of internal examiners appointed by the Department Head. You will also be required to give an oral presentation on this dissertation at the stipulated date and time. Details of this presentation will be given to you in due course by the MRad research coordinator.

If your dissertation is found to be not satisfactory for examination, it will not be read by the panel of examiners. You will then be deemed to have failed the dissertation and bear the consequences that follow. This would mean an extension of not exceeding 6 months to rectify the dissertation and re-submitting it for consideration and subsequently for examination according to the stipulated dates.