

Certificate in Advanced Veterinary Practice

B-SAP.1 Small Animal Practice

Module Syllabus



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Contents

Introduction	3
Aims.....	3
Learning objectives	3
Module content	4
Assessment	5
Assessment weighting	5
Assessment timetable	6
Learning support.....	7
Medicine	8
Therapeutics	11
Surgery	13
Anaesthesia	15
Diagnostic imaging.....	16
Summary essay	17
Instructions for submitting case reports.....	18
Mentor	20
Recommended reading list.....	20

Introduction

This module covers principles relevant to the major areas of small animal general practice – medicine, surgery, anaesthesia, diagnostic imaging and therapeutics, and is relevant to all small animal modular certificates as well as a number of discipline-based modular certificates. It can also be taken as a stand-alone module.

The Small Animal Practice B module is required for all candidates who are aiming to achieve one of the small animal designated certificates.

Aims

The aim of this module is to ensure that candidates have skills and knowledge relevant to the principles of the major areas of small animal practice, regardless of which C modules they are planning to complete. It also aims to develop and enhance candidates' academic and reflective skills.

Learning objectives

At the end of the module, candidates should be able to:

1. Demonstrate a sound and logical approach to clinical cases and an understanding of the pathophysiological principles of the disorders diagnosed and treated in small animal practice.
2. Articulate a rational problem-based approach to cases including discussion of diagnostic procedures and assessment of relevant laboratory data.
3. Critically apply the principles of clinical pharmacology to the use of drugs in small animal practice.
4. Critically apply the principles of surgical practice as they relate to preoperative evaluation of the patient, aseptic technique, peri-operative analgesia, justification for surgical procedure chosen, client education, post-operative care.
5. Critically apply the principles of anaesthetic management including pre-anaesthetic assessment, clinically relevant drug pharmacology, selection of anaesthetic and

monitoring equipment, use of supportive measures (for example, fluid therapy), and management during recovery and the post operative period.

6. Critically evaluate and apply the use of diagnostic imaging in their practice premises and (where applicable) in the field including quality control procedures in place that allow for the safe production of a diagnostic image.
7. Successful candidates will develop and enhance their academic and reflective skills by:
 - Acquiring and developing written communication skills required to present case reports,
 - Demonstrating an ability to communicate competence in decision making and clinical reasoning
 - Demonstrating reflective skills that enable understanding of the issues raised in clinical practice and their learning as a result of completing the module.

Achievement of these learning outcomes will be demonstrated by successful completion of case reports and essays, contribution to discussion forums and other learning activities as determined by the provider.

Module content

The areas of expected study for this module are:

1. Principles of medical case assessment and management

- Clinical reasoning strategies
- Basic pathophysiology of common diseases
- Justification for choice of diagnostic tests and treatment
- Ongoing case management

2. Principles of surgical practice

- Surgical decision-making
- Pre, peri and post-operative considerations

3. Principles of diagnostic imaging

- Radiation protection, quality control and safe production of diagnostic radiographs

4. Principles of anaesthetic management including pre, peri and post-operative considerations

5. Therapeutics

- Principles of clinical pharmacology & therapeutics relevant to small animal general practice

Assessment

- 5 case reports or short case series with a word count up to 1,500 words each (therapeutics is up to 2,000 words). All cases are to have been managed by you and the cases should cover each of the main areas of the module:
 - Medicine
 - Therapeutics
 - Surgery
 - Anaesthesia
 - Diagnostic Imaging

Cases selected should illustrate that you have dealt competently with a range of commonly presented conditions or situations from the area of practice in which they are working.

- A 1,000 - 1,500 word **summary essay** justifying your choice of cases and reflecting upon your learning during the module.

Assessment weighting

- | | |
|-----------------|------|
| • Case reports | 100% |
| • Summary essay | Pass |

Each case report has a 20% weighting of your final module result. The final summary essay will **not** receive a mark but submitting and passing it is a condition of passing the module.

Assessment timetable

Reports may be submitted at any time during the year and they will be assessed within 4 weeks of receipt.

It isn't recommended to submit all five reports at once. **You should submit your medicine report and one therapeutics report for review first (not all four therapeutics reports).**

As well as written feedback for your therapeutics report, you also have the opportunity to speak to the module leader, Jill Maddison, for **verbal feedback**. You can ask for clarification on any points where you are unclear, Jill can explain in more detail the feedback she has provided, and help explain the process of reflection. This is also a good opportunity to discuss any uncertainties you have about the BSAP module, and how to make it fit your particular interests.

Once you have received written feedback, submit your reports gradually (for example, submit 1-2 reports first), then the feedback you receive on your first few reports should give you a good idea of what is required of your other reports. Another reason is if your grammar and spelling were poor, and your references were cited incorrectly, then this would be highlighted in your first submissions. You could then correct these for the remaining essays. You are allowed to submit as many as you wish, but it isn't recommended to submit all five for marking at the same time.

The summary essay may only be submitted after all five of your reports have been assessed and returned to you as it is possible that the assessor feedback from the five reports may contribute to your learning through the module.

Learning support

Learning support is provided to aid self-directed learning and to provide easy access to published articles. You will be given a username and password which will allow you to log on to 4 different systems:

- **RVC Learn (<http://learn.rvc.ac.uk/>)**

- Sample case reports with feedback
- Medicine clinical cases for assessment with model answers
- Articles of interest for all areas covered in the module
- Informative presentations on film faults
- Presentation on the B-SAP.1 assessment requirements.
- Access to RVC Catalogue, the RVC's online solution for the discovery and delivery of resources including books, ebooks, journal articles and digital objects, all in one single search. If you are able to use the library in person, you can borrow a book for one week with photo ID. IT and Library support is available for this facility (email library@rvc.ac.uk or helpdesk@rvc.ac.uk).

- **RVC Intranet (<https://intranet.rvc.ac.uk>)**

Access to all information available to all RVC students and employees, for example, news, events, policies, committees, services, Library, IT helpdesk, etc.

- **Athens (<http://www.openathens.net/>)**

A huge amount of any library's information is now available online, e.g. electronic journals, e-books and databases. 'Athens' is a system used by UK universities for controlling access to these type of online services and with your username and password, you can access many of a library's online databases, electronic journals and e-books seamlessly.

- **Email (<http://mail.rvc.ac.uk>)**

You are given an RVC email address, which is **compulsory** to use for CertAVP communication and submission of work.

Medicine

- Write a case report up to 1,500 words, using the problem-based approach, on an interesting medical case you have managed in your practice. The focus of the case report should be on the problem based assessment of the presenting problems and discussion of the diagnostic procedures used including assessment of laboratory data obtained. Details of treatment and follow-up are usually relatively brief unless the case is relatively straightforward.
- The assessor will provide feedback on your **first version** of this report (feedback received within 4 weeks). Sample cases written using the problem-based approach are available on Learn. You may also choose to attend relevant CPD at the RVC or purchase notes available at the RVC on problem-based clinical reasoning in small animal medicine.

The following is a guide to writing a B module report in medicine. The reviewer is looking for evidence that you can keep an open mind during the initial assessment but that you can assess the problems as a whole and consider the most relevant differential diagnoses:

- Select a case that is interesting to you but not too unusual or complex. It will be much more straightforward to write a report about an animal that has one clinical problem (or two closely related problems) when the diagnosis is certain, or at least you are able to acknowledge any limitations in the final diagnosis and investigation.
- Try to avoid selecting medical cases that do not enable you to demonstrate your problem solving ability and clinical reasoning (for example, those with an obvious diagnosis on presentation and/or with limited clinical pathology or imaging findings).
- Give a succinct but informative clinical history and summary of physical examination. Ask yourself what questions the reader might want answered based upon the final diagnosis. For example, in an elderly cat with weight loss, mention of palpation of the ventral neck would be appropriate.
- Identify what the problems are in the case you have chosen, which are specific and which are the most important. Order them on the problem list with the most specific problems first. Specific problems tend to have shorter differential diagnosis lists and are therefore very useful when considering how best to approach your investigation.

- Make an assessment about whether all problems are related to one diagnosis. If they are (i.e. if it is inconceivable there could be different explanations for the problems) you can select one key specific problem and use this as your 'diagnostic hook'. If there is anything to suggest they may not be (different chronology, unusual association of clinical signs etc.) then you need to assess each specific problem separately.
- Ensure you have appropriately defined each problem if necessary (this varies from problem to problem). Remember that define means – 'do I really know what the clinical problem is e.g. vomiting vs regurgitation or urinary incontinence vs urine retention and overflow' – it doesn't mean having to write a wordy definition of the problem.
- Discuss each specific problem - list the possible body systems involved or if further down the diagnostic track consider actual differential diagnoses (what you actually discuss here will depend on the problem and the case but usually initially it will be the body system, later on you will be considering specific diagnoses).
- After discussing each specific problem, provide a brief overview of the likely affected body systems/diagnoses you are considering when all the clinical signs/data are considered as well as the age, sex, breed and other relevant data.
- Your assessment should explain your diagnostic plans - if you are having difficulty articulating your assessment, write down why you want to.... take blood, do tests, radiographs etc. Your reasons are your assessment and if you can't articulate them then you probably don't have a good reason for spending the client's money! It therefore follows that there should not be a diagnostic (or treatment plan) that does not relate to your assessment, e.g. don't do a lungworm test if you have never mentioned in your assessment the possibility of lungworm as a diagnosis.
- Don't just state 'I want to do bloods'. Tell us what tests you are interested in and why. Biochemical profiles vary especially with the increasing prevalence of in-house diagnostic testing. While a biochemical profile is often the most cost effective way to obtain data, it is still important to consider which specific tests within the profile you are interested in and why. This (1) ensures you don't overlook important tests that may not routinely be available to you (e.g. electrolytes in some in-house systems) and (2) intellectually prepares you to appropriately assess the significance of the results for your particular case.

- Diagnostic test results should be summarised in the text and interpreted fully. If you wish it may be helpful to include full laboratory results in an appendix although this is not essential. Then summarise how these results lead to your diagnosis. Also consider if the diagnosis explains all of the presenting problems.
- Once a diagnosis has (hopefully) been made, summarise the case management and follow-up. The length of this section and the final discussion will depend upon the length of the previous sections. The emphasis for B module medicine reports is on the initial problem based approach and assessment of laboratory findings and other data rather than extensive detail on case management (the latter is much more important in C module reports for medicine). However for completeness we do expect to know the case management (even if summarised) and outcome and for you to discuss selected important aspects of the case using reflective skills and evidence derived from your further reading. Reflecting on case investigation and management might include: discussing any possible alternative diagnostics that might have been used; consideration of any limitations in the final diagnosis; acknowledgement of any aspects that might be improved in a similar case in the future.
- The assessor will be looking for evidence that you have read around the topic of your case including review articles, relevant book chapters and research articles. Try to include a variety of references and use the most recent editions of texts and newer publications if possible. This will depend upon the disease as a more rare condition will have relatively little published information available. Throughout your report use the information gained from your reading to justify statements made, diagnostic tests chosen or treatments given. This assessment of evidence in clinical decision making is one of the hallmarks of an advanced practitioner. Finally, don't be afraid to consider the quality of the reference you are using.

Therapeutics

- Write 4 short case reports (250 - 500 words each, submitted together as one Word document) on patients treated with drugs in your practice. The four case reports should cover four different therapeutic categories of drugs e.g. antimicrobial, anti-inflammatory, cardiac, GI, immunosuppressant, endocrine related. There should be only one drug discussed per case but any other medications the patient is on should be mentioned.
- In each report the reason for drug selection in that patient should be briefly stated and the mechanism of action, relevant pharmacokinetic features and potential adverse effects and interactions of the drug outlined as well as a brief statement on the therapeutic outcome. The purpose of the report is to demonstrate your knowledge and understanding of the relevant clinical pharmacology of the drugs discussed i.e. the drugs not the clinical details should be the focus of the reports.
- The source of information for the reports should be varied and permit you to demonstrate that they have a good understanding of the pharmacology of the drug discussed. Sources should extend beyond the drug data sheet and the BSAVA formulary. Suitable sources in addition to these are a recent edition of veterinary pharmacology textbook and relevant journal articles. Human pharmacology texts can be useful sources of information in relation to mechanism of drug action but should not be cited in relation to pharmacokinetics unless there is no pharmacokinetic data available for the species (in which case this should be clearly stated). The assessor will give feedback on **one case report** prior to submission – this will be assessed within 4 weeks of receipt.

Each case report should address the following issues:

- What were the clinical indications for the drug used - why was it prescribed? (you do not need to describe or justify your case work up - just what the diagnosis was you made that resulted in the drug being prescribed)
- What dose rate and route of administration was used?
- What is the mechanism of action of the drug?

- If it is an antibacterial - what is the spectrum of activity in relation to clinical important small animal infections?
- What are the important pharmacokinetic features that you need to consider in relation to prescribing this drug? This includes how the drug is metabolised and eliminated and if there are any particular species differences of clinical importance.
- If it is an antibacterial mention should be made of any relevant issues related to development of resistance - such as the mechanism of resistance.
- Were there any potential side effects or drug interactions that needed to be considered?
- Were there any special needs in relation to prescribing and handling of the drug?
- If the drug was used off-label this should be noted and the means by which informed owner consent was obtained.
- What was the therapeutic outcome of the case (briefly)?
- What was the most important thing you learnt about this drug as a result of your research in preparing the case report? Will this change your future practice and if so, how?

As well as written feedback on the single therapeutics case report, you also have the opportunity to speak to the module leader, Jill Maddison, for verbal feedback. You can ask for clarification on any points where you are unclear, Jill can explain in more detail the feedback she has provided, and help explain the process of reflection. This is also a good opportunity to discuss any uncertainties you have about the BSAP module, and how to make it fit your particular interests.

Surgery

- Write a case report up to 1,500 words, discussing a patient you have managed surgically in your practice. The case report should not be a lengthy description of the diagnosis and surgical procedure but instead should focus on the following topics.
 - a) Pre-operative evaluation of the patient – would include physical examination findings and outcome of previous non-surgical management if applicable. It is important to provide thorough history and physical examination findings, including relevant normal parameters that were important to consider, but this section must remain succinct. Physical examination findings should be interpreted, for example, if heart rate is 250 you should comment on whether this is abnormal, to demonstrate that you can recognise abnormal physical examination findings.
 - b) Pre-operative education of client expectations – would include discussing indication(s) for surgery, risks and complications associated with surgery and expected outcome (i.e. prognosis and recovery time). Remember to include all of the information an owner will need to decide if they should consent for surgery. In considering how to write this section, think about how you weighed up whether to offer surgery.
 - c) Brief description of the diagnostic test(s) performed. Tests must be clearly defined, for example write exactly which blood test(s) were performed rather than saying 'bloods were run.' You can include full blood results in an appendix but abnormal results should be included in the text of the case report. Diagnostic tests should be interpreted. Radiographs can be included in an appendix and may enhance your case, but they must be interpreted within the text of the case report.
 - d) Aseptic technique – would include all aspects from preparation of patient, theatre, instruments and surgical team. As well as describing the techniques, sufficient reflection and critique of how and why your theatre is managed should be included. You should demonstrate understanding of how a theatre should be run and assess your own theatre practices.

- e) Very brief description of the surgical procedure(s) performed. This should be pertinent to your case, including a description of the surgical findings, rather than a generic description of a procedure that would be found in a textbook. Standard surgical approaches and closures can be summarised if referenced.
 - f) Therapeutic protocols, for example, analgesia, antibiotics but not anaesthesia protocols. You should justify why the drugs were chosen.
 - g) Justification for choice of surgery procedure(s) – a brief discussion as to why a particular surgery was performed
 - h) Post-operative care of the patient. Include, if appropriate, reasons for the decisions you made.
- Throughout the report you should demonstrate your understanding of surgical principles by justifying a particular course of action or choice of drug/material/equipment rather than simply describing it. Reflection and critical evaluation of the choices you made and the outcomes of the case, and how your hospital is run, must be included in all sections of the report. If the course of action/choice was not what would be considered “best practice” then you must reflect on its relative importance and whether or not anything could be changed in the future.
 - For example, if an antibiotic is given, please justify why, how and when it is given, demonstrating a knowledge of current prophylactic and therapeutic antibiotics principles and recommendations.
 - For example, if cloth drapes have been used, please comment on the advantages/disadvantages of these compared to disposable drapes including consideration of the environmental impact of both.

These are just a few examples, and within the word limit of the case report it will obviously not be possible to reflect on every aspect of the case, so each candidate should decide which aspect(s) of the case report are most important to reflect upon.

This report will not be reviewed by the module leader prior to submission for assessment.

Anaesthesia

- Write a case report up to 1,500 words that illustrates your approach to the anaesthetic management of a surgical or medical case where the patient characteristics presented challenges from an anaesthetic viewpoint (for example, very old, very young, concurrent illness).
- The report should include an explanation of management choices (e.g. anaesthetic agent selection, use of monitors) and where relevant, may include details of alternatives. Pre-anaesthetic assessment, drug pharmacology, choice of anaesthetic equipment, monitoring and supportive measures (for example, fluid therapy), and recovery/post op care should be included. It is important that these are discussed in the context of the patient's individual anaesthetic requirements, and are not textbook descriptions of pharmacology and equipment function. The case reports need not describe perfect or ideal anaesthetic management technique, however a reflection on how management can be improved may be of relevance.
- The focus of the report should be the discussion and explanation of anaesthetic management; however in recognition of the integrated nature of the CertAVP, where there are particularly important or relevant issues relating to other aspects of management (for example surgical complications, client communication or ethical/welfare considerations) it would be expected that these would be noted. These should be brief (suggest 1-2 sentences) and lengthy descriptions of surgical technique should be avoided, as this is usually at the expense of appropriate depth of discussion of anaesthetic considerations.
- As outlined in the learning objectives for this module, it should be emphasised that we are looking for evidence of your decision-making and clinical reasoning. As such it is not enough to simply describe what you did to anaesthetise your patient, but more importantly WHY you did this. We want to know that you understand why you are making these decisions. We are also looking for evidence of reflection and learning. Are there aspects of your case management that you would now change, as a result of your learning during the preparation of this case report? Case reports which do not discuss decision-making, clinical reasoning and reflection are unlikely to receive a pass mark.

This report will not be reviewed by the module leader prior to submission for assessment.

Diagnostic imaging

- A reflective essay between 1,000 and 1,500 words that describes your use of diagnostic imaging in your practice.
- The essay should give an overview of the measures in place that allow your practice to conform to the Basic Principles of Radiation Protection as set out in the Guidance Notes for the Safe Use of Ionising Radiations in Veterinary Practice (chapter 1), as well as the quality control procedures in place that allow for the production of a diagnostic radiograph (including comments on film-screen selection, choice of radiographic exposures, the use of grids, film processing, identification of film faults, methods in place to limit repeat exposures, and your experience of the benefits and pitfalls of post-processing if a digital system is used). You must demonstrate familiarity with the basic principles of radiation protection.

This essay will not be reviewed by the module leader prior to submission for assessment.

Summary essay

The final submission is a 1,000 - 1,500 word reflective essay discussing the reasons for your choice of cases, your learning during the module and how this learning has influenced your and/or your team's current and future practice. This might include what has changed in your approach to a case, any new procedures or investigations that are now considered, any additional reading or learning strategies which were helpful, support you have been able to give to your colleagues, and/or any unexpected features of a case which will influence decision making in the future.

It can be helpful to base the essay using the reflective **Three What's** approach:

- **What?** (did I do/observe/write about)
- **So What?** (did I learn)
- **Now What?** (how will this change my practice in the future?).

This essay should only be submitted **after** all case reports/essays are assessed and returned to you, as the assessor feedback from the case reports/essays will often contribute to your learning through the module.

Each case report has a 20% weighting of your final module result. The final summary essay will not receive a mark but submitting and passing it is a condition of passing the module.

Instructions for submitting case reports

Please ensure that your report includes this table on the front page:

Name:	
Module:	B-SAP.1
Topic:	Medicine / Surgery / Therapeutics / Imaging / Anaesthesia / Summary (delete as appropriate)
Word count: (excluding tables, photo titles and references)	

To submit a report for review/marking, it needs to be uploaded on to Learn; you will be given further instructions when you enrol.

We recommend that text font and size, paragraph spacing, layout, spelling and grammar are considered when writing your work. Consider using a suitable font (for example, Arial or Calibri), a font size no smaller than 10 and an essay looks better with a 1.5 line spacing setting.

For the medicine, surgery, anaesthesia, and diagnostic imaging case reports/essays word counts between 1,000 and 1,500 words are acceptable; each therapeutics case report **must not** exceed 500 words. A case report/essay that exceeds the permitted word count will be returned to you for re-submission within the word limit. This is in the interest of fairness as it is difficult to compare an essay exceeding the word limit with one which has been kept to the required limits. Additionally, the ability to keep a discussion tightly focused, with every word counting, is an important skill to have developed at this level. Information included in a table will be included in the word count unless it is mainly numerical information (e.g. laboratory data in a table is not included in the word count).

If your report exceeds the word count (as calculated by Word) but includes cited references then you will need to either reduce the total word count or cite your references in number format – we cannot spend time manually counting the cited reference names to check whether the word count has been adhered to.

It isn't recommended to submit all five reports at once. **You should submit your medicine report and one therapeutics reports for review first.** Once you have received the feedback, then submit your reports gradually (for example, submit 1-2 reports first), then the feedback you receive on your first few reports should give you a good idea of what is required of your other reports. Another reason is if your grammar and spelling were poor, and your references were cited incorrectly, then this would be highlighted in your first submissions. You could then correct these for the remaining essays. You are allowed to submit as many as you wish, but it isn't recommended to submit all five at the same time.

The summary essay may only be submitted after all five of your reports have been assessed and returned to you as the assessor feedback from the five reports may contribute to your learning through the module.

References:

- The decision or overall judgment you make about the factors that you are discussing must be supported with evidence from reliable sources.
- References should be properly cited in the text, in accordance with the style in the *Journal of Small Animal Practice (JSAP)* or *Veterinary Record*.
- Avoid listing references that were not cited in the text or vice versa.
- We recommend using Harvard referencing as described by the Anglia-Ruskin University (<http://libweb.anglia.ac.uk/referencing/harvard.htm>).
- You will find it very helpful to use a program such as Endnote® or Reference manager® to organise your references.

Plagiarism:

All written work submitted to the Royal Veterinary College is passed through plagiarism detection software. Work submitted for this module should not have been submitted for any other courses at RVC or other institutions.

Mentor

You may wish to have a mentor with which you can discuss cases. Ideal mentors would have post-graduate qualifications (for example, certificate, diploma) relevant to small animal practice and finding a mentor and maintaining appropriate and regular contact are the responsibility of the candidate. Mentors operate on a goodwill basis only and RVC academic staff will not be available as mentors. Please notify the CertAVP office when you have a mentor as there is a Mentor Guidance document that is provided to them.

Recommended reading list

The following list is given as a guide as to where to start and for this reason cannot be considered 'complete'. We also don't expect you to read texts from cover to cover or to use all of the texts listed, however we do recommend you make use of the most recent edition of textbooks where available. We apologise if you feel a particular favourite is missing - feel free to use the Learn discussion board to pass on additional suggestions to other candidates. Please note that we also expect you to read selected articles from peer reviewed publications such as the Journal of Veterinary Internal Medicine, the Journal of Feline Medicine and Surgery etc, that are relevant to the particular case that you choose to write up.

Medicine

- Small Animal Internal Medicine (Eds. Nelson and Couto)
- Ettinger's Textbook of Veterinary Internal Medicine
- Journal of Small Animal Practice
- Relevant BSAVA manuals
- In Practice
- Course notes from relevant RVC courses are usually available from the CPD Unit

Therapeutics

- Small Animal Clinical Pharmacology (eds JE Maddison, SW Page and DB Church)
- Veterinary Pharmacology and Therapeutics (eds JE Riviere & M Papich)
- Plumb's Veterinary Drug Handbook
- Small Animal Clinical Pharmacology and Therapeutics (ed DM Boothe)
- BSAVA Small Animal Formulary

Surgery – Principles of Surgical Practice

- Small Animal Surgery: Ed. Fossum WB Saunders (2007)
- Principles of Small Animal Surgery: Ed. Tobias, Johnston Elsevier (2012)
- BSAVA Textbook of Veterinary Nursing: Ed. Lane, Cooper, Turner (2007)
- BSAVA manuals of surgery and advanced surgical nursing
- Manual of Small Animal Orthopaedics and Fracture Management: Ed. Brinker, Piermatti and Flo (2006)
- Compendium of Continuing Education
- Journal of Small Animal Practice
- Veterinary Surgery

Anaesthesia

- Veterinary Anaesthesia, Alexandra Dugdale, Wiley Blackwell, 2010
- Lumb and Jones' Veterinary Anaesthesia, Tranquilli, Thurmon and Grimm, Wiley Blackwell, 2007
- BSAVA Manual of Canine and Feline Anaesthesia and Analgesia, Seymour and Duke, BSAVA 2007
- Veterinary Anaesthesia, Hall, Clarke and Trim, Saunders, 2000.

Diagnostic imaging

Small Animal:

- Coulson A, Lewis N. An Atlas of Interpretive Radiographic Anatomy of the Dog and Cat; Blackwell Scientific Publications, Oxford, 2008
- Thrall DE (ed). Textbook of Veterinary Diagnostic Radiology. WB Saunders Co, Philadelphia, 2007
- Kealy K & McAllister H. Diagnostic Radiology and Ultrasonography of the Dog and Cat; WB Saunders & Co, 2004
- Barr F, Kirberger R (eds). BSAVA Manual of Canine Musculoskeletal Imaging. Cheltenham: BSAVA Publications, 2006
- BSAVA Manual of Canine & Feline Thoracic Imaging. Cheltenham, BSAVA Publications, 2008
- BSAVA Manual of Canine & Feline Abdominal Imaging. Cheltenham, BSAVA Publications, 2009

Radiography and Physics:

- Douglas SW, Williamson HD & Herrtage M. Principles of Veterinary Radiography; BailliereTindall, London, 1987
- Ticer JW. Radiographic Technique in Veterinary Practice. WB Saunders Co, Philadelphia, 1984