

MSc in Oncology

Including PG Certificate and PG Diploma

Cancer Treatments 1

Module Guide 2017/18

Part B | Clinical Sciences



Contents

Module details

| | | |
|-----|----------------------------|---|
| 1.1 | Module overview | 3 |
| 1.2 | Module specification | 3 |

Contact information

| | | |
|-----|------------------------|---|
| 2.1 | General enquires | 4 |
| 2.2 | Key people..... | 4 |

Module structure and aims

| | | |
|-----|---------------------------|---|
| 3.1 | Aims..... | 6 |
| 3.2 | Learning objectives | 6 |
| 3.3 | Structure | 7 |

Syllabus content

| | | |
|-----|---------------------------------|---|
| 4.1 | Core syllabus content..... | 8 |
| 4.2 | Specific syllabus content | 8 |

Assessment

| | | |
|-----|--|----|
| 5.1 | Assessment overview..... | 10 |
| 5.2 | Formative single best answer tests | 10 |
| 5.3 | Summative assignment | 11 |

Learning resources

| | | |
|-----|--|----|
| 6.1 | Learning resources..... | 14 |
| 6.2 | Specific topic recommended texts | 14 |

Guide last amended: 22/09/2017

The information contained in this Module Guide is correct at the time of going to press. Any amendments relating to the course or changes to published dates will be announced to students via Canvas, the course virtual learning environment. Information found on Canvas will always be the most accurate and up to date information available. Where anything in this guide contradicts the ICR Academic Regulations, the ICR Academic Regulations take precedence.

1

Module details

1.1 Module overview

This module, like its sister module Cancer Treatments 2, is about developing knowledge and critical understanding of a range of common and rarer malignancy types and tumour sites to aid you in your clinical management of cancer.

The module is compulsory and is taken in Part B of the course. Lectures take place over the entirety of the first semester (eighteen weeks), and assessment takes place at the end of the module.

1.2 Module specification

| Cancer Treatments 1 | |
|--------------------------------|---------------------------|
| Full Title: | Cancer Treatments 1 |
| Part of Course: | Part B: Clinical Sciences |
| Compulsory or optional: | Compulsory |
| ICR Reference Number: | MS2011 |
| Academic Level: | Level 7 (Masters) |
| Credit Value: | 20 Credits |

2

Contact information

2.1 General enquires

Students are advised to contact the MSc course team regarding any administrative matters at mscadministrator@icr.ac.uk. Any academic matters should be forwarded to the Course Director, Module Leaders or Lecturers as appropriate.

2.2 Key people

| Name | Contact Information |
|--|--|
| Course Director | |
| Dr David Bloomfield - <i>HIV-related</i> Consultant Clinical Oncologist, Brighton and Sussex University Hospitals | david.bloomfield@bsuh.nhs.uk |
| Topic Leaders | |
| Dr Jaishree Bhosle – <i>Acute oncology</i> Consultant Medical Oncologist, RMH | jaishree.bhosle@nhs.net |
| Professor John Bridgewater – <i>Gastrointestinal</i> Consultant Medical Oncologist, UCL | j.bridgewater@ucl.ac.uk |
| Dr Rema Jyothirmayi – <i>Palliative care</i> Consultant Clinical Oncologist, ICR/RMH | rema.jyo@nhs.net |
| Dr Susan Lalondrelle – <i>Skin / melanoma</i> Consultant Clinical Oncologist, RMH | susan.lalondrelle@rmh.nhs.uk |
| Dr Kate Lankester – <i>Gynaecological</i> Consultant Clinical Oncologist, Brighton & Sussex University Hospital | kate.lankester@nhs.net |
| Dr Aisha Miah – <i>Sarcoma</i> Consultant Clinical Oncologist, RMH | aisha.miah@rmh.nhs.uk |

Dr Susannah Stanway – *Living with and beyond cancer / survivorship*
Consultant Medical Oncologist, RMH susannah.stanway@rmh.nhs.uk

Dr Alison Tree - *Urological*
Consultant Clinical Oncologist, RMH alison.tree@rmh.nhs.uk

3

Module structure and aims

3.1 Aims

This module aims to assist you in acquiring a comprehensive knowledge base in a range of topics related to malignancy so that patients can be managed clinically at a level appropriate for specialist training in a UK Cancer Centre setting. The module will also enable you to recognise and perform the initial management of presentations of rarer cancers, and develop a critical awareness of the problems addressed by site specialist colleagues. Following the completion of the module, you will be able to apply theoretical knowledge to the practical management of patients with cancer.

3.2 Learning objectives

This module will allow students to:

- Develop an in depth understanding of the principles underlying the management of the malignancies described in the module;
- Synthesise, evaluate and apply these principles to the clinical environment;
- Evaluate and critically analyse the research base in the management of these cancers;
- Critically evaluate the knowledge base for these cancers in order to obtain awareness of the controversies and limitations which exist.

3.3 Structure

This module is a core module for Part B of the Postgraduate Certificate / Postgraduate Diploma / MSc in Oncology course. Students should attend all lectures to prepare themselves for the end of module assessments.

In this module, lectures cover nine sites of malignancy: three major 'core' sites and six 'specialist' less common sites. These are the module topics, and are:

Core topics:

- Urological malignancy;
- Gastrointestinal malignancy;
- Gynaecological malignancy.

Specialist topics:

- Acute oncology;
- Palliative care;
- Living with and beyond cancer / survivorship;
- Sarcoma;
- Skin (including melanoma);
- HIV-associated malignancy.

All students attend lectures on all topics.

A full and up to date module timetable is available in the calendar on Canvas. Any changes to this schedule will be announced through Canvas notifications.

4

Syllabus content

4.1 Core syllabus content

For each topic the following areas will be covered:

- Epidemiology, cancer biology and pathology of the tumour;
- Assessment of a patient with the cancer;
- Application of principles of local and systemic management;
- Evaluation of the evidence base for treatment;
- Identification of problems in managing this site.

4.2 Specific syllabus content

Each topic area covers a number of malignancies that fall under each classification, as well as some extra sub-topics. These are listed below:

Core topics

- Urological malignancies
 - prostate cancer;
 - urothelial and bladder cancer;
 - testicular tumours;
 - renal cancer;
 - penile cancer.
- Gastrointestinal malignancies
 - oesophageal cancer;
 - stomach cancer;
 - pancreatic cancer;
 - hepatobiliary cancer;
 - colorectal cancer;
 - anal cancer;
 - molecular diagnostics and therapy.

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- Gynaecological malignancies
 - principles of screening (for cervical and ovarian cancer);
 - ovarian cancer;
 - cervical cancer;
 - vulval cancer;
 - uterine malignancies;
 - gestational trophoblastic disease.

Specialist topics

- Acute oncology
 - acute oncological emergencies;
 - radiotherapy in oncological emergencies;
 - malignancy of undefined origin;
 - the role of acute oncology in clinical practice.
- Palliative care
 - management of pain;
 - multi-disciplinary management of the dying patient;
 - management of other cancer symptoms;
 - role of palliative radiotherapy and interventional radiology;
- Living with and beyond cancer / survivorship
 - understanding the importance of holistic care in a person with and beyond cancer;
 - presentation, diagnosis and management of the sexual consequences of having cancer;
 - presentation, diagnosis and management of the cardiac consequences of cancer therapies;
 - second primary cancers.
- Sarcoma
 - soft tissue sarcoma;
 - bone sarcoma.
- Skin (including melanoma)
 - non-melanomatous skin cancer;
 - melanoma;
 - merkel cell cancer.
- HIV-related malignancy

5

Assessment

5.1 Assessment overview

Both formative and summative assessment methods will be used in this module. You will need to complete four individual formative tests and one summative essay. All students must complete all assignments. Please refer to the Assessment section on Canvas or in the Student Handbook for more guidance on more general aspects of assignment submission.

Link to Cancer Treatments 2

The Cancer Treatments 2 sister module operates in a very similar manner to Cancer Treatments 1 but covers a different range of topics and tumour sites. The two modules function independently, but **at least one summative essay from either module must be written on a 'core' topic/tumour site** (i.e. both your summative assessments cannot be focused solely on specialist malignancies).

5.2 Formative single best answer tests

For this module, all students will sit four compulsory single best answer (SBA) tests. These SBAs must each be passed in order to pass the module overall, but the score will not contribute to the overall module mark.

In this module you must take SBAs in:

- Urological malignancy
- Gastrointestinal malignancy
- Gynaecological malignancy
- Specialist topics (combined)

The tests will be taken on Canvas and will all consist of 15 questions, each scoring 10 points. You must score at least 50% (80 points) in each of the SBAs to pass. You have two attempts at each test and your highest score will be recorded. The SBAs must each be completed within 30 minutes.

5.3 Summative assignment

This module is assessed via an essay on the practical clinical management of cancer, of **strictly up to 1,800 words**.

Your essay should either be a case study or an audit of a particular clinical issue, selected based on professional interest from the range of topics/tumour types covered on the module. Set essay titles will not be provided, although case studies provided by Module Leaders for different areas of the module may be selected by you to discuss further. You are encouraged to discuss your intended choice of essay topic with your educational supervisor before you embark on it.

The essay will be used to assess the depth of your learning on the module, testing your higher-level understanding and ability to make judgements at a more advanced level. It should address both the relevant literature for the topic area and the specific clinical case being considered, and demonstrate that you have the transferable skills to be able to evaluate clinical practices in other areas in similar ways.

Your submission must clearly state the topic your essay relates to. Remember, as Cancer Treatments 1 is linked to Cancer Treatments 2, you must do at least one essay on a core topic across the two modules. It is fine to do two essays on core topics. Submit your essay via Canvas following the instructions in the Student Handbook. Ensure you submit your essay to the appropriate marker for the topic selected.

You are expected to reference relevant literature to support your essay. As a guideline, use up to 10-15 references to support your discussion. **Remember that penalties will apply for any work that is late, over the word limit, or includes plagiarised material.**

Case Studies

If you choose to write your essay as a case study, it should illustrate a range of management problems related to cancer management issues taught during the module. Each case should:

- State the topic to which the case relates;
- Briefly describe the clinical issues (this should not exceed 300 words);
- Include a main discussion of the case in relation to the literature, listing what you have learnt during the course and specifically this module;
- End with your conclusions, including what you have learnt from the case and how it will affect your future practice.

Audits

If you choose to write your essay based on an audit or quality improvement project, it should be about a clinical issue suitable for presentation at your educational base. The audit review must be written as a prose essay and should:

- State the topic to which the audit relates;
- Discuss the present standard of care, making reference to relevant literature;
- Discuss the clinical relevance of the issue;
- Note the evidence on which the audit standard is based;
- Discuss audited practice;
- Give proposals for change, discussing any likely obstacles;
- Outline future audit cycles;
- Give conclusions on what you have learnt from the audit, and how it will change your practice.

The audit should be submitted together with a letter from your base hospital educational supervisor, confirming your role in the audit, whether the work has been presented and where; and if it achieved the required standard.

Work based on class discussions

You may submit an essay on a topic that has been addressed in peer-to-peer class discussions and group work, including presentation exercises. If so, your write-up must be wholly your own work, while drawing on what you discussed and decided in group work. Any extensive similarities or cross-over with other students' write-ups will be detected by plagiarism software and may be penalised. Be sure to include relevant references to journal papers where appropriate.

6

Learning resources

6.1 Learning resources

The following learning resources are core texts relevant to the whole module. You are strongly advised to read both of them.

- The relevant chapters in Treatment of Cancer, 6th edition. Price and Sikora. (2014) Hodder and Arnold
- The relevant chapters in Oxford Textbook of Oncology, 3rd edition. Kerr, Haller, von de Velde and Baumann. (2016) Oxford University Press

6.2 Specific topic recommended texts

The following learning resources are relevant to the individual module topics. Details of further reading on specific sub-topics may also be identified during teaching on the module.

Core topics:

- Urological malignancy

General reading:

- Chemotherapy of Urological cancer. The Royal Marsden Hospital Handbook of Cancer Chemotherapy. Brighton and Wood (2005) Elsevier Churchill Livingstone
- The relevant chapters in External Beam Therapy. Edited by Peter Hoskin, Oxford University Press

Prostate cancer

- BUG prostate cancer guidelines available at <http://www.bug.uk.com/downloads/MDT%20GUIDANCE%20FOR%20MANAGING%20PROSTATE%20CANCER%20EVIDENCE%20BASE%20SEPT%202013.pdf>
- Biological dose escalation: what is there to be gained and how is it best done? Tree, AC, Alexander E, van As, NJ, Dearnaley DP, Khoo. VS. Clinical Oncology. (2013) 25(8):483-98
- Evolution of androgen receptor targeted therapy for advanced prostate cancer. Ning Y, Wong S, Ferraldeschi R, Attard G, de

Bono JS. Nature Reviews Clinical Oncology. (2014) 11:365-376

- Conventional versus hypofractionated high-dose intensity-modulated radiotherapy for prostate cancer: 5-year outcomes of the randomised, non-inferiority, phase 3 CHHiP trial. Dearnaley D, Syndikus I, Mossop H et al. Lancet Oncology. (2016) 20: S1470-2045(16)30102-4

Prostatectomy

- Long-term evaluation of survival, continence and potency (SCP) outcomes after robot-assisted radical prostatectomy (RARP). Ficarra V, Borghesi M, Suardi N, et al. BJU Int. (2013) 112(3):338-45

Testicular cancer

- Testicular germ-cell cancer. Horwich A, Shipley J, Huddart R. Lancet. (2006) 4;367(9512):754-65
- Guidelines on Testicular Cancer: 2015 update. Albers P, Albrecht W, Algaba F, et al. European Urology. (2015) 68(6):1054-1068
- Reducing treatment toxicities in the management of good prognosis testicular germ cell tumors. Gilbert DC, Van As NJ, Huddart RA. Expert Rev Anticancer Ther. (2009) 9(2):223-33
- Evidence-based pragmatic guidelines for the follow-up of testicular cancer: optimising the detection of relapse. Van As NJ, et al. Br J Cancer. (2008) 17;98(12):1894-902

Bladder cancer

- www.bladder-cancer-course.org [EAU site with good interactive review of superficial bladder cancer management]
- EAU Guidelines on Non-Muscle-invasive Urothelial Carcinoma of the Bladder: Update 2016. Babjuk M, Böhle A, Burger M, et al. Eur Urol. (2016) 71(3):447-461
- Bladder Cancer. Kaufman DS, Shipley WU, Feldman AS. (2009) Lancet. 374:239-249
- Updated 2016 EAU Guidelines on Muscle-invasive and Metastatic Bladder Cancer. Witjes AJ, Lebrecht T, Compérat EM, et al. Eur Urol. (2016) 30:S0302-2838(16)30290-1

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- Improving radiotherapy for bladder cancer: an opportunity to integrate new technologies. Lalondrelle S, Huddart. R. (2009) Clin Oncol (R Coll Radiol). 21(5):380-4
 - BUG bladder cancer guidance available at <http://urologyuk.com/Documents/BAUS%20BUG%20MDT%20Guidlines%20-%20bladder%20cancer.pdf>
 - NICE guidance on bladder cancer 2015 available at <http://www.nice.org.uk/guidance/ng2/evidence/evidence-review-3744110>

Role of chemo in localized disease

- Adjuvant chemotherapy in invasive bladder cancer: a systematic review and meta-analysis of individual patient data. Advanced Bladder Cancer (ABC) Meta-analysis Collaboration Eur Urol. (2014) 66(1):42-54
- Adjuvant chemotherapy for invasive bladder cancer: a 2013 updated systematic review and meta-analysis of randomized trials. Leow JJ, Martin-Doyle W, Rajagopal PS, et al. Eur Urol. (2014) 66(1):42-54

Renal cancer

- Renal cancer. Capitanio U, Montorsi F. Lancet. (2015) 25:S0140-6736(15)00046-X
- Systemic therapy for metastatic renal cell carcinoma. Choueiri TK and Motzer RJ. New England Journal of Medicine. (2017) 376(4):354-366

Penile cancer

- EAU guidelines on penile cancer: 2014 update. Hakenberg OW, Compérat EM, Minhas S, et al. Eur Urol. (2015) 67(1):142-50

- Gastrointestinal malignancy

Oesophageal cancer

- Centralisation of oesophagogastric cancer services: can specialist units deliver? Forshaw MJ, Gossage JA, Stephens J, et al. Annals of The Royal College of Surgeons of England. (2006) 88(6):566-70

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- Volume and Operative Mortality in the United States. Birkmeyer JD, Stukel TA, Siewers AE, et al. *Surgeon N Engl JMed.* (2003) 349(22):2117-27
 - Capecitabine and Oxaliplatin for Advanced Esophagogastric Cancer. Cunningham D, Starling N, Rao S, et al. *N Engl J Med.* (2008) 358(1):36-46
 - Surgical resection with or without preoperative chemotherapy in oesophageal cancer: a randomised controlled trial. MRC working party for oesophageal cancer. *The Lancet.* (2002) 359(9319):1727-33
 - Trastuzumab in combination with chemotherapy versus chemotherapy alone for treatment of HER2-positive advanced gastric or gastro-oesophageal junction cancer (ToGA): a phase 3, open-label, randomised controlled trial. Bang YJ, Cutsem E, Feyereislova A, et al. *The Lancet.* (2010) 376(9742):687-97
 - Perioperative Chemotherapy versus Surgery Alone for Resectable Gastroesophageal Cancer. Cunningham D, Allum WH, Stenning SP, et al. *New England Journal of Medicine.* (2006) 355(1):11-20
 - Preoperative Chemoradiotherapy for Esophageal or Junctional Cancer. van Hagen P, Hulshof MCCM, van Lanschot JJB, et al. *New England Journal of Medicine.* (2012) 366(22):2074-84.

Pancreas

- The patterns and dynamics of genomic instability in metastatic pancreatic cancer. Campbell PJ, Yachida S, Mudie LJ, et al. *Nature.* (2010) 467(7319):1109-13
- A Randomized Trial of Chemoradiotherapy and Chemotherapy after Resection of Pancreatic Cancer. Neoptolemos JP, Stocken DD, Friess H, et al. *N Engl J Med.* (2004) 350(12):1200-10
- Effect of adjuvant chemotherapy with fluorouracil plus folinic acid or gemcitabine vs observation on survival in patients with resected periampullary adenocarcinoma: The espac-3 periampullary cancer randomized trial. Neoptolemos JP, Moore MJ, Cox TF, et al. *JAMA.* (2012) 308(2):147-56

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- Gemcitabine-based or capecitabine-based chemoradiotherapy for locally advanced pancreatic cancer (SCALOP): a multicentre, randomised, phase 2 trial. Mukherjee S, Hurt CN, Bridgewater J, et al. *Lancet Oncology*. (2013) 14(4):317-26
 - FOLFIRINOX versus Gemcitabine for Metastatic Pancreatic Cancer. Conroy T, Desseigne F, Ychou M, et al. *New England Journal of Medicine*. (2011) 364(19):1817-25
 - Increased Survival in Pancreatic Cancer with nab-Paclitaxel plus Gemcitabine. Von Hoff DD, Ervin T, Arena FP, et al. *New England Journal of Medicine*. (2013) 369(18):1691-703

Biliary

- Whole-Genome and Epigenomic Landscapes of Etiologically Distinct Subtypes of Cholangiocarcinoma. Jusakul A, Cutcutache I, Yong CH, et al. *Cancer Discovery*. (2017)
- Adjuvant capecitabine for biliary tract cancer: The BILCAP randomized study. Primrose JN, Fox R, Palmer DH, et al. *Journal of Clinical Oncology*. (2017) 35:4006
- Cisplatin plus gemcitabine versus gemcitabine for biliary tract cancer. Valle J, Wasan H, Palmer DH, et al. *N Engl J Med*. (2010); 362(14):1273-81

Hepatocellular carcinoma

- Sorafenib in Advanced Hepatocellular Carcinoma. Llovet JM, Ricci S, Mazzaferro V, et al. *New England Journal of Medicine*. (2008) 359(4):378-90
- Arterial embolisation or chemoembolisation versus symptomatic treatment in patients with unresectable hepatocellular carcinoma: a randomised controlled trial. Llovet JM, Real MI, Montaña X, et al. *The Lancet*. (2002) 359(9319):1734-9

Colon cancer

- The Consensus Molecular Subtypes of Colorectal Cancer. Guinney J, Dienstmann R, Wang X, et al. *Nature Medicine*. (2015) 21(11):1350-6.

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- Oxaliplatin, Fluorouracil, and Leucovorin as Adjuvant Treatment for Colon Cancer. Andre T, Boni C, Mounedji-Boudiaf L, et al. N Engl JMed. (2004) 350(23):2343-51
 - Levamisole and fluorouracil for adjuvant therapy of resected colon carcinoma. Moertel CG, Fleming TR, Macdonald JS, et al. N Engl JMed. (1990) 322(6):352- 8
 - Preoperative versus Postoperative Chemoradiotherapy for Rectal Cancer. Sauer R, Becker H, Hohenberger W, et al. New England Journal of Medicine. (2004) 351(17):1731-40
 - FOLFIRI plus cetuximab versus FOLFIRI plus bevacizumab as first-line treatment for patients with metastatic colorectal cancer (FIRE-3): a randomised, open-label, phase 3 trial. Heinemann V, von Weikersthal LF, Decker T, et al. The Lancet Oncology. (2014) 15:1065-75.
 - Perioperative chemotherapy with FOLFOX4 and surgery versus surgery alone for resectable liver metastases from colorectal cancer (EORTC Intergroup trial 40983): a randomised controlled trial. Nordlinger B, Sorbye H, Glimelius B, et al. Lancet. (2008) 22;371(9617):1007-16
 - Panitumumab–FOLFOX4 Treatment and RAS Mutations in Colorectal Cancer. Douillard J-Y, Oliner KS, Siena S, et al. New England Journal of Medicine. (2013) 369(11):1023-34
- Gynaecological malignancy
 - Diseases of the Breast. Harris, Lippman, Morrow & Osborne, 3rd edition. (2004) Lippincott, Williams and Wilkins
 - The relevant chapters in Cancer: Principles and Practice of Oncology. DeVita, Hellman & Rosenberg. (2004) Lippincott, Williams and Wilkins
 - Radiotherapy in Practice: Brachytherapy. Hoskins EP, Coyle C. (2005) Oxford University Press
 - E-learning for Health Care / Royal College of Radiologists Gynaecological Brachytherapy online material – available at <http://portal.e-lfh.org.uk/> and www.e-lfh.org.uk/programmes/ [Students need to register on-line and then can access Advanced Radiotherapy programme]

Specialist topics:

- Acute Oncology
 - Relevant chapters in Clinical Problems in Oncology: A Practical Guide to Management. Moorcraft S-Y, Lee D, Cunningham D. (2014) John Wiley & Sons
 - Cancer patients in crisis: Responding to Urgent Needs. Royal College of Physicians (2012) available at <https://www.rcplondon.ac.uk/resources/cancer-patients-crisis-responding-urgent-needs>
- Palliative Care
 - Relevant chapters in Clinical Problems in Oncology: A Practical Guide to Management. Moorcraft S-Y, Lee D, Cunningham D. (2014) John Wiley & Sons

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Making the discoveries that defeat cancer

