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| PROGRAMME SPECIFICATION |  Newcastle University |
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| 1 | Awarding Institution | Newcastle University |
| 2 | Teaching Institution | Newcastle University |
| 3 | Final Award | Postgraduate Certificate |
| 4 | Programme Title | Postgraduate Certificate in Minimal Access Surgery |
| 5 | Programme Code | 3048P |
| 6 | Programme Accreditation | |
| 7 | QAA Subject Benchmark(s) | |
| 8 | FHEQ Level | 7 |
| 9 | Last updated | 07/06/2010 |

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| 10 | Programme Aims |
| <p>To provide surgical trainees with the theory and skills training in minimal access surgery using integrated fresh cadaveric and virtual reality simulator based training to an early and intermediate level.</p> | |

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| 11 | Learning Outcomes |
| <p>The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.</p> | |
| <p>Knowledge and Understanding</p> | |
| <p>On completing the programme the student should be able to :</p> <p>A1 identify and appraise the indications and contraindications to minimal access surgery and open surgery</p> <p>A2 justify the use of appropriate pharmaceutical agents, including use of antibiotics and agents used for analgesia/anaesthesia in the practice of minimal access surgery</p> | |
| <p>Teaching and Learning Methods</p> | |
| <p>The Knowledge and Understanding referred to above are delivered mainly by lectures (A1, A2) and group discussions (A1) along with private study (A1, A2). Student will undertake a case report on a patient's journey through various stages of treatment, allowing them to put into practice their knowledge. The lectures and group discussions will enable students to question, discuss and check learning (A1, A2). Throughout the programme, students will be encouraged to undertake independent reading. Essential material for independent learning will be provided in the form of specific scientific papers and references to textbook chapters.</p> | |
| <p>Assessment Strategy</p> | |
| <p>Summative assessment of knowledge outcomes will be carried out by means of a MCQ with a confidential score for each student (A1, A2). Case Based</p> | |

Discussion on the case report prepared by the students will also provide a summative assessment of the knowledge gained and how this has been implemented in a real life scenario.

Intellectual Skills

On completing the programme the student should be able to:
B1 make a critical judgment about suitability of the patient for surgery
B2 propose overall treatment options and formulate detailed plans of treatment for surgical conditions, considering all options for treatment in the context of the physical, psychological, functional and preventive requirements of the patient
B3 modify treatment plans as required in order to achieve as satisfactory a result as possible in the light of unexpected developments during patient management
B4 critically appraise the scientific evidence relating to minimal access surgery (benign and malignant) and conventional treatment options.

Teaching and Learning Methods

The Intellectual Skills referred to are developed using case studies and problem based learning. Group discussions and Case Based Discussion will help to stimulate shared problem solving, open discussion, and self evaluation (B1, B2, B3, B4). A question and answer approach will be used in the clinical setting (as an ongoing process) which will promote thinking, help the teacher to check understanding, and assists the learner to seek clarification. Each learning topic is evaluated by the student to help adapt both teaching, learning methods and content to the student's needs. Lectures will provide understanding and an insight into proposed overall treatment (taking into account other factors like physical, psychological, functional needs of patients) (B2, B3 B4). Skills relating to the critical appraisal of the scientific evidence are also developed through private study (B4).

Assessment Strategy

Intellectual skills will be summatively assessed by the Case Based Discussion using objective structured forms at the end of MAS8001 & MAS8002 (B1, B2, B3, B4).

Practical Skills

On completing the programme the student should be able to:
C1 acquire generic laparoscopic skills like visuo-spatial orientation, ambidexterity
C2 perform basic laparoscopic tasks (like camera operation, clip application, two handed manoeuvres, Knot tying, suturing, insufflation, port insertion, tissue grasping and cutting etc.) in a simulated environment
C3 perform operative steps of certain minimal access surgical procedures (e.g. lap cholecystectomy, lap hernia, lap duodenal ulcer perforation etc) in a simulated environment
C4 identify the risks and complications encountered during minimal access surgery and take steps for avoidance or treatment
C5 Complete and document a comprehensive clinical assessment and request and interpret appropriate investigations in order to arrive at a diagnosis
C6 Effectively communicate to the patient the treatment options and procedures involved in order to allow the patient to make a decision for

surgery
C7 Follow an appropriate aseptic surgical protocol
C8 Manage common post-operative complications and provide post-operative care and advice

Teaching and Learning Methods

Practical Skills are taught by demonstration and practice of clinical skills on virtual reality simulator (C1, C2, C3, C4) and cadavers (C1, C2, C3, C4, C7), structured observation and supervised coaching. Video demonstration (C1, C2, C3, C4) of procedures will demonstrate the procedures performed by experts to reinforce the operative steps and encourage learning by reflection. The acquisition of skills is consolidated by a question and answers approach during lectures (C2, C3, C3, C6) and group discussions (C4, C7, C8). This promotes thinking, helps the tutor check understanding and assists the learner to seek clarification. Peer review will be used to formatively evaluate treatments, planning and surgical stages of the treatment. The case report prepared by the candidate (by following the patient's journey through various stages of management) will encourage active learning of oral and written communication skills (C5, C6) as well as developing an insight into the choice of investigations that may be requested.

Assessment Strategy

Skills simulation exercises are assessed formatively during the programme and summatively at the end of each module using objective assessment on virtual reality simulator (C1- C4). Specific Direct Observation of Procedural Skills proformas will be used for objective assessment on cadavers at the end of module MAS8002 using a validated Global Objective structured score sheet (C1-C4). Case Based Discussion, at the end of each module, will provide formative summative of student's oral and written communication skills (C5, C6).

Transferable/Key Skills

On completing the programme students should be able to:
D1 secure patient consent as it relates to minimal access surgery and fulfil requirements for adequate documentation and communication of plans, risks, procedures, costing, and alternatives to minimal access surgery
D2 perform basic and intermediate laparoscopic procedures under supervision
D3 provide appropriate pre-operative and post-operative care to patients
D4 Follow an appropriate aseptic surgical protocol
D5 source and critically appraise the scientific literature

Teaching and Learning Methods

Good practice in clinical record keeping and consent are developed by lectures and case report preparation (D1); informing the legal requirements and by demonstration of clinical skills, structured observation and supervised coaching in the clinical setting. Each learning topic is evaluated by the student to help adapt both teaching, learning methods and content to the student's needs. Lectures, group discussions and private study of relevant topics will be useful as a learning tool for acquiring skills based on rationale explanation of existent scientific knowledge (D2, D3, D4, D5). Fresh cadaver and virtual reality simulator based hands on training will result in acquisition of appropriate dexterity and surgical skills (D2)

Assessment Strategy

Feedback will be provided by continuous formative assessment during the programme. Skills simulation exercises are assessed summatively using objective assessment on virtual reality simulator (D2). Specific Direct Observation of Procedural Skills proformas will be used for summative assessment on cadavers (D2). A written MCQ at the end of each module will be used to provide summative assessment of intellectual and transferable skills (D5). At the end of each module, Case Based Discussions will provide summative assessment of the student's key/transferable skills (D1, D3, D4).

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The programme consists of two modules: -

MAS8001: Introductory Theory and Basic Skills in Minimal Access Surgery (30 credits)

Theory topics will include:

1. Surgical anatomy of the abdomen
2. Historical aspect of laparoscopic surgery
3. Principles of laparoscopic Surgery
4. Physiological changes in laparoscopic surgery
5. Current developments and trends
6. Laparoscopic vs. Open Surgery: Indications, Contraindication, Challenges and Benefits
7. Principles of wound healing, surgical asepsis and rationale for infection control
8. Common Equipment and devices
9. Energy and safety

1-9 via seminars/tutorials/ didactic lectures

Practice sessions are conducted on virtual reality simulation only. Practical topics will include:

10. Laparoscopic Stack
11. Camera Operation (0 & 30 degrees)
12. Clip Application
13. Two handed manoeuvres
14. Knot tying
15. Suturing
16. Insufflation
17. Port insertion
18. Tissue Grasping and Cutting

10-18 via virtual reality simulation

MAS8001 comprises of approximately 300 learning hours:

- Theory- private study (115 hours) + lectures (14 hours) + group discussion (10 hours)
- Practical- virtual reality simulator (123 hours)
- Reflective learning - learning by video demonstration (9.5 hours)
- Case Report (25 hours)

- Assessments – virtual reality simulator (1.5 hour), MCQ (1.5 hour) and Case Based Discussion (0.5 hour)

MAS8002: Techniques and Intermediate Skills in Minimal Access Surgery (30 credits)

Theory topics will include:

1. Pre-operative and post-operative management
2. The evidence base relating to minimal access surgery and conventional treatment options
3. Use of appropriate pharmaceutical agents, including antibiotics and agents used for analgesia/ anaesthesia
4. Overview of common operations
5. Relevant complications and risk factors
6. The law of consent as it relates to minimal access surgery and the requirements for adequate documentation and communication of plans, risks, procedures, costing and alternatives to minimal access surgery
7. Operating room set-up / Patient Preparation
8. Detailed anatomy and anatomical variations of biliary tree
9. Detailed anatomy of groin/inguinal region
10. Operative steps and principles of laparoscopic hernia repair
11. Operative steps of laparoscopic cholecystectomy

1-11 via seminars/tutorials/ didactic lectures

Practice sessions will include practice on virtual reality simulator and fresh frozen cadavers. Practical topics will include:

12. Operating room set-up / Patient Preparation
13. Laparoscopic Stack
14. Camera Operation (0 & 30 degrees)
15. Clip Application
16. Two handed manoeuvres
17. Knot tying
18. Suturing
19. Insufflation
20. Port insertion
21. Tissue Grasping and Cutting
22. Use of diathermy
23. Dissection of tissue plane and division of adhesions
24. Laparoscopic Gall Bladder removal
25. Lap. hernia repair
26. Lap. perforated duodenal ulcer repair

22-25 via virtual reality simulation

12-26 via fresh cadaver (excluding 24 laparoscopic gall bladder removal; taught only on virtual reality simulator)

MAS8002 comprises of approximately 300 learning hours:

- Theory – private study (90 hours) + lectures (7 hours) + group discussion (5 hours)

- Practical- virtual reality simulator (110 hours) + cadaver (48 hours)
- Reflective learning- learning by video demonstration (10 hours)
- Case Report (25 hours)
- Assessments – virtual reality simulator (1.5 hour) + cadaver (1.5 hours) + MCQ (1.5 hour) + Case Based Discussion (0.5 hour)

The candidate must achieve a score of at least 50% in each element of the assessment method of MAS8001 before MAS8002 can be commenced.

Key features of the programme (including what makes the programme distinctive)

This is the first integrated fresh cadaver and simulator based laparoscopic skills taught post-graduate programme in England.

Participants are granted access to the Freeman Hospital library to access a vast range of educational material as well as access to a library of videos on minimal access surgery in NSTC demonstrating procedures performed by the experts in the field.

Under close supervision during the programme, the students will have the opportunity to interact with the teaching staff at all times

Programme regulations (link to on-line version)

<http://www.ncl.ac.uk/regulations/programme/>

13 Criteria for admission

Entry qualifications

A candidate may be entered for the PG Certificate at the discretion of the Degree Programme Director and provided that such a candidate:

- (a) has successfully completed the MB BS or equivalent; and
- (b) has successfully completed one year of Foundation Training or equivalent training;
- (c) Shown interest in surgical career (for example: elective, surgical job, presentations, audit etc).

Preference will be given to senior candidates who are following a career in surgery.

Admissions policy/selection tools

Suitability for entry to the programme will be assessed on the basis of an application form (assessing candidates as described above). In the case of overwhelming response and limited places, applicants who are short listed on the basis of an application form will be invited to attend for interview with two members of the core Programme Team.

Non-standard Entry Requirements

Applicants will be required to comply with the requirements of access to and infection control policies and procedures of The Newcastle upon Tyne Hospitals NHS Foundation Trust.

Additional Requirements

None

Level of English Language capability

The programme requires students whose first language is not English or those not presently employed in the UK to have a minimum IELTS score of 7.0 with no individual sections lower than 6.5 or equivalent.

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: <http://www.ncl.ac.uk/postgraduate/support/>

Induction

During the first week of the programme, new students attend an induction session. The NSTC induction will include an orientation of the hospital surroundings and a detailed introduction to the facility and staff. Local induction policy will apply including health and safety, security and other important Trust policies (for example, equality and diversity, dealing with members of the public and confidentiality codes of practice, moving and handling procedures, fire regulations and codes of conduct within the lab environment). Students will be given detailed programme information, including a Programme Handbook, and the timetable of lectures/practicals/labs/ tutorials/etc. Student will also have the opportunity to attend Newcastle University for an introduction to university facilities, including library, study facilities and IT access.

Study skills support

Students will learn a range of Personal Transferable Skills, including Study Skills as outlined in Section 11. Students will be able to access a range of study skills support at Newcastle University <http://www.ncl.ac.uk/postgraduate/facilities/studysupport/index.htm>.

Academic support

For academic issues, the initial point of contact is the lecturer (or Clinical Nurse Facilitator). Generic and administrative issues relating to the programme may be raised with the NSTC Administrator or the Programme Administrator at the University. Contact details are provided in the Programme Handbook. If the issue is not resolved at this level, it may be referred to the Degree Programme Director. If the issue is still not resolved, the issue will be referred to the PTG Co-ordinator at Newcastle University and the Dean of Postgraduate Studies.

Pastoral support

Students will be appointed a personal tutor from within the Programme Team. The University offers a range of support services which are co-ordinated by the University's Student Support Services, <http://www.ncl.ac.uk/postgraduate/support/> . Furthermore, the Union Society at the university operates a Student Advice Centre, which can provide

advocacy and support to students on a range of topics including housing, debt, legal issues etc. At NSTC, students may discuss problems and issues with a member of NSTC staff. In all cases, staff will ensure that the appropriate guidance is provided or that the student is signpost to relevant support networks.

Support for students with disabilities

The University's Disability Support Service provides help and advice for disabled students at the University

<http://www.ncl.ac.uk/postgraduate/support/disability.htm>. All teaching will take place within the NSTC facilities at the Freeman Hospital. The operative and practice environment can be adjusted to support disabled students (e.g. operative table can be readjusted to suit height; screen of Virtual Reality Simulators can be lowered and students will be provided with seating facilities while they use the VRS). Students with disabilities should discuss their specific requirements with a member of teaching staff at NSTC.

Learning resources

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources) and by Information Systems and Services (ISS) which supports campus-wide computing facilities <http://www.ncl.ac.uk/postgraduate/facilities/library.htm>. In addition, the library at the Freeman Hospital NHS trust can be accessed to access a vast range of educational material. There is an extensive library of videos on minimal access surgery in the NSTC facility.

15 Methods for evaluating and improving the quality and standards of teaching and learning

Student feedback and Module reviews

The effectiveness of the module will be continually reviewed by the Programme Team using a wide range of data, including student outcomes and student feedback, to inform development. In terms of student feedback, at the end of each module, the student will be asked to complete a written evaluation of the module, although informal feedback from students will also be collated and appropriately considered. Changes to modules, or the introduction of new modules, will be considered at Curriculum Committee by the Programme Team and quality assured by the normal approval processes, firstly by PGT Board of Studies and then by the Faculty Teaching and Learning Committee (FTLC).

Curriculum Committee

The Programme Team will convene a Curriculum Committee three times a year to review programme operation, quality and performance. The Curriculum Committee will consist of the DPD (module leader), teaching staff and administration staff (the Programme Team). Students will be invited to nominate a student representative to attend these meetings.

Annual Monitoring Review Report (AMR)

The Curriculum Committee conducts an annual review of the programme to ensure programme quality and to identify improvements and development opportunities. The report utilises a wide range of quality and performance data to inform this review, including student outcomes, student feedback, the effectiveness of teaching methods and assessment processes and developments in the external environment. The resulting report and improvement action plan is reviewed and approved by FTLC in line with established Faculty processes. Students have the opportunity to engage in the AMR during drafting and approval and will be provided with feedback relating to actions implemented in response to the report.

External Examiner reports

The programme is externally examined by an External Examiner who takes an overview of the quality and appropriateness of assessment processes and assessment outcomes (see Section 16). The External Examiner produces a report which identifies any improvement opportunities. These reports are considered by the Programme Curriculum Committee to ensure any improvement opportunities are appropriately implemented. The reports are forwarded to the Postgraduate Board of Studies and to FTLC for review and approval. The External Examiner reports, and the response made by the Curriculum Committee, are available to students.

Faculty and University Review Mechanisms

Every six years the programme is subject to the University's Periodic Review. This review involves both the detailed consideration of a range of documentation, and a two-day review visit by a review team (which includes an external subject specialist in addition to University and Faculty representatives). Following the review a report is produced and this forms the basis for a decision by the University on whether the programme quality has been consistently maintained and whether the programme should continue to run in its present format.

16 Regulation of assessment

Pass mark

The pass mark for each module is 50%. The student must pass each element of the assessment method within each module (the pass mark for each element is 50%).

Students must pass Module MAS8001 to progress onto MAS8002. The modules are core and compensation regulations do not apply.

Any student who fails to satisfy the examiners in the practical assessments will be required to complete a further period of study (this will normally be to repeat the entire module) before the next attempt. Any student who fails to satisfy the examiners in the MCQ or the case study elements of assessment will be required to complete a period of home/private study before the next attempt (normally within 4 weeks of the scheduled assessment date).

The Post Graduate Certificate will be awarded on successful completion of

both modules, MAS8001 and MAS8002. A merit will be awarded for Post Graduate Certificate if the averaged score for both the modules is 60-69% and a distinction will be awarded for Post Graduate Certificate if the averaged score for both the modules is 70% or above (modules have a 50:50 weighting).

Special arrangements will be made to allow the students to undertake a separate assessment (within 4 weeks of scheduled assessment date) if they are unable to attend on the assessment days due to sickness or for extenuating circumstances such as bereavement.

Course requirements

Progression is subject to the University's Masters Degree Progress Regulations, Taught and Research and Examination Conventions for Taught Masters Degrees.

Role of the External Examiner

An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, following recommendation from the Board of Studies. The External Examiner is expected to:

- i. See and approve assessment papers
- ii. Moderate examination and coursework marking
- iii. Attend the Board of Examiners
- iv. Report to the University on the standards of the programme

In addition, information relating to the programme is provided in:

The University Prospectus: <http://www.ncl.ac.uk/postgraduate/>

The School Brochure

Degree Programme and University Regulations:
<http://www.ncl.ac.uk/regulations/docs/>

The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Mapping of Intended Learning Outcomes onto Curriculum/Modules

| Module | Type | Intended Learning Outcomes | | | |
|---------|------|----------------------------|------------|------------------------------|-------------------|
| | | A | B | C | D |
| MAS8001 | Core | A1 | B1, B4 | C1, C2, C5, C6, C7, C8 | D1, D2, D3, D4 |
| MAS8002 | Core | A2, | B2, B3, B4 | C2, C3, C4, C5, C6, C8 | D1, D2, D3, D5 |