Manchester Cancer

Central Manchester University Hospitals NHS
NHS Foundation Trust

Greater Manchester and Cheshire HPB Unit Guidelines for the Assessment & Management of Hepatobiliary and Pancreatic Disease

Chapter 3

Contents

3. HPB cancer service in Greater Manchester and Cheshire - Model of Care

3.1. *Introduction*

Manchester Royal Infirmary [MRI] (part of the Central Manchester University Hospitals NHS Foundation Trust [CMFT]) is the site on which the specialist HPB cancer surgical service for Greater Manchester and Cheshire is housed. It has the following resources which help to underpin its ability to carry out this role:

- The availability of brand new and 'fit for purpose' accommodation in the new PFI development at MRI including a recent and major expansion of ICU/HDU capacity;
- The University Teaching/major research centre status of CMFT;
- The range of diagnostic equipment and specific diagnostic skills at MRI;
- A robust rota for 24/7 access to interventional radiology at MRI

The HPB unit is part of the General Surgical unit at MRI. This is one of the largest and most specialised surgical units in the region, treating patients from Manchester and surrounding areas. Our services include upper gastro-intestinal [GI] surgery, lower GI (colorectal) surgery, endocrine surgery as well as HPB surgery.

CMFT aims to become one of the top five NHS Trusts for research and innovation in the UK. There is an extensive infrastructure in place to support translation of research and innovation into improved patient care.

3.2. *Leadership*

CMFT provides a specialist surgical hepato-biliary cancer service (HPB) for the 3.2m residents of Greater Manchester and Cheshire. The specialist HPB cancer service will provide leadership for the whole patient pathway, from primary care through to quaternary care, to ensure that we achieve a uniformly high standard of care for the whole of the Greater Manchester and Cheshire population – the same service, delivered in the same way, to the same standards, within the same timescales, and with equity across postcodes. Leadership to the service will be provided at a number of levels in a number of areas, including leadership across the system, the clinical team and the academic elements. System leadership includes, for example: the development of protocols and guidelines, the development of multi-disciplinary forums, and the implementation of systems of governance across the whole pathway.

Clinical Leadership

The main roles of the Clinical Lead will be to direct the service, oversee the pathway, provide expert advice to the commissioners, and to govern and report on the clinical quality of the whole service. The role will include:

- Leading the development of the service

- Providing clinical leadership within the specialist HPB cancer service
- Providing leadership for the local hospitals
- Developing relationships with academia; University of Manchester, Manchester Academic Health Science Centre, Academic Health Science Network and other academic groups such as the developing Christie Cancer Research Centre
- Ensuring system-wide collaboration
- Ensuring research participation across the local hospitals and specialist centre
- Developing protocols and guidelines across the pathway
- Ensuring that liaison with patients, carers and patient support groups is comprehensive and equally accessible

Other leadership roles include:

- Associate Clinical Lead – to support and deputise for the Clinical Lead.
- Governance Lead – to lead the development of a system of governance across the whole pathway, to assist the Clinical Lead in governing, and reporting upon the clinical quality of the whole service.

Academic Leadership

There is an active academic HPB research group across CMFT and the University of Manchester. It is chaired by Professor Siriwardena and also includes Dr. Jason Bruce (University of Manchester), Cell Biologist. Their specific area of research interest is in the early management of pancreatic cancer and improving the staging and treatment of patients with pancreatic and colorectal cancer metastatic to the liver. External funding is provided through peer review research grants.

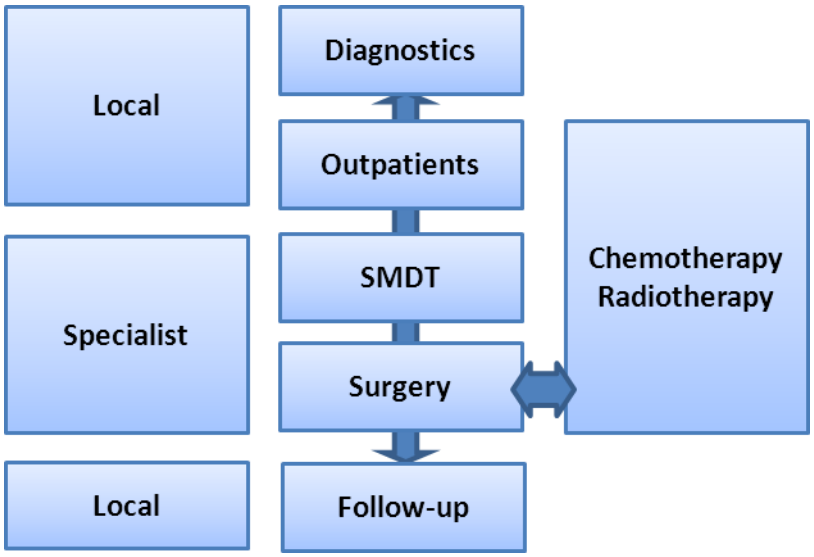
The medium term strategy is to formalise the research group through the appointment of a university funded senior lecturer in HPB surgery.

The Christie NHS Foundation Trust participated in the European Neuro-Endocrine Tumour Service (ENETS) accreditation in 2011, which was led by Professor Juan Valle (Medical Oncologist). Professor Valle is also the Chief Investigator for the national Phase 3 clinical trials for HPB/NET, Chair of the UK NCRI subgroup, and a core member of the MRI HPB sMDT.

3.3. *Patient Pathway*

HPB specialist cancer surgery will take place at the specialist centre. However, the service will support diagnostics and minimally invasive techniques, where possible and clinically safe, being delivered in outreach hospitals. The specialist HPB team based at the specialist centre will interact with the gastrointestinal surgeons, gastroenterologists and colorectal surgeons in the local hospitals.

The diagram below provides a high level model for the service and in particular highlights the services provided at the local and specialist centres.



It is important to note that chemotherapy will be delivered (where clinically appropriate) on a local basis, and that the satellite facilities at Oldham and Salford provide radiotherapy as well as The Christie, offering more convenient access for many patients during this stage of treatment.

Within HPB there are six core pathways:

1. Primary liver cancer
2. Secondary liver cancer
3. Primary pancreatic cancer
4. Primary biliary tract cancer
5. HPB-related complex benign conditions
6. HPB-related non-elective/emergency patients (e.g. acute pancreatitis and liver trauma)

While this paper describes primarily the model of care for HPB cancer, pathways also exist for the two non-cancer categories. These categories are already supported by NMGH and MRI, and it is not anticipated that there will need to be any significant alteration of the current clinical referral criteria and processes. We will continue to make use of the specialist HPB expertise available to us in order to ensure that the standard of patient care for these categories is maintained and developed in line with that of the cancer service.

The right information at the right time

Contact and disease-specific information will be supplied through the specialist website, audio visual tools, and traditional leaflets. We will engage with patient forums in a variety of ways to ensure that we continue to meet the communication and information needs of the patients, their family and carers. In addition we have an established HPB Patient Support Group.

Diagnosis (early detection)

This group of cancers can be difficult to detect in the early stages. We recognise that early detection is key to improving survival rates and outcomes, and we therefore propose to develop support, in particular educational, for primary care and to work with public health colleagues to raise awareness and encourage healthy lifestyles that can prevent the disease developing in the first place. All organisations across the Network will share common protocols to ensure timely access to diagnostics. A draft pro-forma for referring patients with suspected HPB malignancy to the Greater Manchester and Cheshire specialist HPB MDT has been developed. It is proposed that the referral form will be made available electronically at all of the referring local hospitals. This will make it easier to make a referral, ensure that the all of the patients referred have had the required tests, and ensure that all of the basic information needed by the SMDT is included.

Referral to specialist centre – sMDT

The specialist management of HPB cancer patients from Greater Manchester and Cheshire's catchment area will be based on decisions made at the specialist multidisciplinary meetings (sMDT). The sMDT will meet on a weekly basis, and will fulfil the IOG requirements as a minimum. It is estimated that 80 patients will be assessed through the sMDT per week. Communication of the outcome of the sMDT meeting will be as follows:

- For patients who know their diagnosis and management plan – confirmation by the Clinical Nurse Specialist [CNS]
- For patients who do not know their diagnosis and management plan – informed face to face in clinic
- For GPs – notification of the outcome via the MDT outcome pro-forma which is faxed to them within 24 hours

The standards for the sMDT meeting will be audited to ensure that the sMDT is effective and consistently comes to the right decisions about whether surgery is appropriate or otherwise.

Guidelines for primary and secondary care clinicians for referral to the sMDT will be clear and concise to ensure that those patients discussed are those that benefit most from the input of the whole sMDT and to ensure that there is sufficient time to review the cases that need to be reviewed by the sMDT.

Patient support

Patient support is provided by the whole team. Key individuals are the surgeon and the nurse specialist. Each patient will be supported by a key worker (a CNS), who will be their main point of contact, will oversee their cancer treatment on their behalf, and keep them updated about progress. Patients will

typically have two nurse specialists - one at their local hospital and one at the specialist centre. The patient will transfer from the local CNS to the CNS at the specialist centre at the appropriate point in their pathway, with the CNSs co-ordinating the hand-overs.

The surgeons will always meet their patients face to face prior to surgery. Following this, and to avoid the need to travel into the centre, they are available to answer queries from patients, family members and carers on the telephone and via email.

Surgical Management

Once the decision for surgery has been made, pre-operative surgical patients will normally visit the specialist trust as an outpatient twice prior to their surgery (excluding where patients have had to attend for specialist diagnostics/staging). This first visit will occur after the specialist MDT discussion so that the plan can be finalised with the patient. At that visit they can meet their surgeon and the clinical team, discuss surgery and ask any questions, and orientate themselves with the hospital facilities. The second visit will for their preoperative assessment.

Tests performed in the specialist centre include overall fitness for surgery, and detailed cancer staging tests.

In line with NICE guidance for ensuring that the MDT method of working adds its full potential value to patient care, for surgical aspects of specialist care, the surgical operations and immediate post-operative care will all be carried out in the same host hospital of the sMDT team.

The proposed pathways will allow the safe and comprehensive assessment of all patients due to undergo surgery. The principles embedded in the service include:

- Less Invasive Surgical Techniques to be used alongside Enhanced Recovery
- Surgeons who are trained in, and have the skills and experience to deliver, less invasive surgical techniques (eg laparoscopic surgery)
- There will be two consultant surgeon members of the same surgery multidisciplinary team for complex and/or /prolonged operations that have been scheduled for six or more hours of theatre time such as hilar cholangiocarcinoma
- Sub-sub-specialist surgeons will share the responsibility of providing hilar cholangiocarcinoma surgery
- New members of the cancer surgery team will be formally ‘buddied’ with a senior colleague for an appropriate number of operations

Other input will be gained from vascular surgery for complex resections requiring vascular reconstruction. The HPB team currently also works with the renal cancer and gynaecological cancer teams, and with the pseudo-myxoma service at the Christie, to support patients' complex resections.

Emergency Management

There will be dedicated 24-hour cover for specialist HPB so that a surgeon is available at all times for their in-patient population and for urgent specialist advice across the Greater Manchester and Cheshire Network area. Patients will be admitted to their local hospital out of hours. They will be assessed by the local surgical team (usually a general surgeon). If the local team require advice they can speak to the specialist surgeon on-call. If they decide that the patient requires urgent treatment they will be transferred to the specialist centre.

MRI is a designated Major Trauma Centre [MTC] and there is an on-call HPB rota which provides 24-hour specialist support to that service.

Critical Care

The facilities in CMFT's new critical care unit are state-of-the-art, and incorporate an additional five isolation cubicles in addition to current complement. Ultimately, there will be 68 beds available for patients who are critically ill or have undergone major surgery and have the potential to become critically ill. The new facility has sufficient capacity to accommodate increases in demand following the reconfiguration of cancer services across Greater Manchester.

Oncological Management

The Christie provides consultant medical and clinical oncologist support to sMDT meetings and other local MDTs across the network. Systemic therapy and access to appropriate clinical trials will be provided at local units dependent on appropriate facilities and skillsets.

The Christie biobank is sited on the Christie site. The Trust has a translational research hub, which provides cutting-edge research and innovative treatment options for cancer patients.

Radiotherapy will be delivered close to the patient's home, and whenever possible at one of the sites offering radiotherapy within Manchester Cancer.

Chemotherapy will be delivered close to the patient's home or within the specialist centres as appropriate.

Follow-up

Following surgery, most patients will be reviewed once in the specialist centre. They will then be referred back to their local hospital under the care of a GI surgeon, colorectal surgeon or a gastroenterologist. Pancreatic cancer patients will however receive their post-operative follow-up care at the specialist centre.

HPB Pathways

The HPB pathways are part of a comprehensive set of protocols and management algorithms. They support better decision making and patient safety by providing current, evidence-based guidance across the entirety of HPB practice. The relevant pathways have all been reviewed and agreed by clinicians, nursing staff, representatives of the relevant support services, the Clinical Effectiveness Committee, and by the GMCCN. The pathways themselves are detailed separately, but the schematic attached as **Appendix 1** gives a summary of the key elements.

3.4. *Joint Working*

We are committed to joint working with all of the organisations involved in the care of patients with HPB cancer and ensuring that the specialist HPB cancer surgery centre is clinically fully integrated with the local referral/diagnostic teams and also with all the non-surgical cancer services provided by The Christie.

Local referral/diagnostic teams

HPB surgery only takes place at the specialist centre. Nonetheless, joint working with local sites will be critical to the success of the new services. As such, the HPB team based at the specialist centre will interact with the GI surgeons, gastroenterologists and colorectal surgeons in the local hospitals. The team will support joint working through:

- Buddying up specialist HPB surgeon with local teams
- Multi-Disciplinary Team meetings
- Joint protocols and guidelines covering the whole pathway
- Clinical Nurse Specialists

Consultant HPB surgeons are each allocated a referring hospital and will be the first point of contact for the relevant specialties within that hospital. This will give the local unit continuity and improve working relationships. The HPB surgeon will provide advice and support as necessary.
Any hospital requiring specialist HPB input to other services that they provide, usually specialist services, will be appropriately supported.

Primary and Community Care

We recognise the need to extend our joint working to better incorporate public health and primary care at the early stages of the pathway. One of the key factors in improving outcomes is early diagnosis and it is therefore essential that we educate primary and community health professionals and the public about

what to look out for and how to lead healthy lives that reduce the likelihood of these cancers ever developing.

We will also develop joint working with organisations that can provide holistic support for patients with HPB cancer. This would include St Anne's hospice, McMillan and other charities that support cancer.

The clinical team at the specialist centre will maintain and develop close links with patients and their carers via support groups to further enhance the quality of the service, improve our understanding of patient needs and enhance future services.

Co-dependent Services

It is important, in order to deliver truly world class services above and beyond IOG compliance, that all of the required supporting services are available on-site including critical care and high dependency beds, 24/7 interventional radiology and, sophisticated cancer diagnostics. In addition to the above, the following are also available on-site at CMFT: gastroenterology, vascular surgery, renal dialysis, haematology, and cardiac services.

As a result we are able to treat a wide range of patients with co-morbidities such as chronic liver disease, obesity, diabetes mellitus and ischaemic heart disease. The HPB service has on-site access to the following who/which may need to contribute to the care of the cancer surgery patient from time to time:

- any member of the cancer MDT
- the full range of specialist diagnostics including CT, MR, ultrasound and nuclear medicine
- ablative therapy for cancer – including percutaneous, laparoscopic and intra-operative radiofrequency and microwave ablation.
- trans-arterial chemo-embolisation (TACE) for liver cancers and we are currently participating in a national study of this technique (TACE-2)
- the full range of consultants in other co-dependent specialties (cardiac, respiratory, care of the elderly, microbiology, etc)

There is a 24/7 interventional and vascular radiology service already in place. The out of hours on-call rota is currently shared between CMFT and University Hospital of South Manchester (UHSM). Plans are in place to operate an independent CMFT on-call rota.

sMDT proposals

Purpose

The aim of the SMDT is to ensure a coordinated approach to diagnosis, treatment and care services for all patients diagnosed with HPB cancer in an appropriate setting. The sMDT has the combined functions of

diagnosis (to rapidly assess and achieve histopathological confirmation of cancer), treatment (discussing the management of all newly diagnosed cancers) and communication (with the appropriate agencies e.g. primary care teams, hospice, etc). Furthermore the sMDT is committed to achieving the highest standards of care and patient outcomes by:

- Collection of high quality data
- Analysis of such data in audit cycles
- Involvement in local, national and international research studies
- Incorporation of new research and best practice into patient care
- Providing comprehensive information to patients and their relatives
- Involving patients in assessment and redesign of services

As indicated in earlier sections there will be one sMDT covering the total 3.2m population.

Operation

Following a request by a member of the sMDT, cases are listed for discussion at the sMDT through the sMDT co-ordinator. The co-ordinator will be responsible for:

- ensuring that notes and all radiological images are available for the meeting
- ensuring attendance of all present is recorded on a weekly basis

Urgent cases can be discussed outside of the formal sMDT, however in this case the following protocol is to be followed:

1. Telephone discussion between the relevant treating consultant or their deputy and another SMDT surgeon/clinical oncologist/medical oncologist. This discussion to include all available radiology and pathology evidence.
2. Formal written letter to follow telephone discussion as a permanent record.
3. The case will be discussed at the next scheduled SMDT meeting.

Patients will have the opportunity to retain a permanent record or summary of at least a consultation between patient and doctor when the following are discussed:

- Diagnosis
- Treatment options and plan
- Relevant follow-up (discharge) arrangement

3.5. *Local Services*

In general, only specialist diagnostics and surgery take place in the specialist centre. All other elements of the pathway will be undertaken in the local hospitals. This includes initial outpatients, diagnostics and investigations, and follow-up care. We will support the local units in this through:

- Developing and implementing common protocols and guidelines covering the whole of the pathway
- Buddying arrangements between the specialist centre and the local hospital
- Access for local hospitals to sMDTs
- Protocols for diagnostic tests such as CT and MR so that they can be undertaken at the local hospital and do not need to be re-done at the specialist centre.
- Access to on-call HPB specialist at all times

The specialist HPB cancer service will have governance responsibility across the whole of the pathway. The specialist service will ensure that the local teams have the capability and skills to deliver their elements of the pathway to the required standard. Audit and other mechanisms to provide assurance that the elements of the pathway delivered in both the local and specialist centres meet and exceed required standards and deliver the required outcomes will be put in place. The specialist team will provide support where a local hospital is unable to meet the requirements. We already use telephone and email to liaise with patients. The following describes how we will use information management and technology to further improve communications and improve patient care.

Cancer Passport

CMFT has developed a Cancer Passport which has been designed to support the continuation of care and treatment for cancer patients in whichever organisation they're being treated and cared for. The Cancer Passport provides clinicians with information about the patients' treatment plan and care history. Patients will have access to the record and be able to grant access to whoever needs to see and contribute to it.

Tele-health

We are in the process of developing a Trust-wide programme of work centred around the DH 'Digital First' initiative which focuses on reducing face to face contacts with patients by delivering consultations using telephone, Skype and other tele-health technologies.

Record sharing and electronic patient records

CMFT has a dedicated cancer IT system that integrates with other core Trust systems. The cancer system records information about a patient from the point of embarking on the cancer pathway and manages the patient throughout each stage of diagnosis and treatment. All staff involved with the care of the patient

can access the system and information is updated on a real-time basis. The MDTs, both those that are internal to CMFT and those that are across Trusts, have access to the system which is used to pull up information about the patient interactively on large screens and/or using teleconferencing facilities.

The Trust is implementing an integrated informatics strategy of which a core component is patient access to information, empowering the patient to take control and have knowledge of their care and ensuring there is an IT infrastructure in place to allow them to participate in their own care.

3.6. *Transport*

The patient pathway is designed to reduce the need for unnecessary patient and carer travel. This will be achieved by delivering care and treatments locally where possible and optimizing technologies such as patient portals and tele-consultations. However, when patients and their carers are required to travel, systems are in place to ensure equal access.

The HPB service will provide a patient transport service according to the medical needs of the patient. These in turn will determine whether hospital transport or the ambulance service will be used to transfer patients.

For patients with mobility problems who have difficult in accessing services, the North West Ambulance Service [NWAS] and ARRIVA support patients in accessing services across the Greater Manchester region. An agreement is in place between the Association of Greater Manchester Commissioners, NWAS and ARRIVA for this service.

3.7. *Audit of Outcomes*

The service is committed to greater transparency in relation to outcomes and patient experience.

Outcomes

We already collect the surgery clinical quality indicators described in the framework specification:

- access to the service
- timeliness and seamlessness of the patient flow through their cancer surgery episode
- in-hospital mortality
- morbidity
- complications; premature mortality within 18 months of operation, with review of the surgical decision for each death (including whether the operation should have been undertaken at all)
- disease free interval
- the patient's own assessment of the post-surgery quality of life.

In addition to this we:

- Contribute to AUGIS, the national database, and this is mandatory for all HPB surgeons operating within our service.
- Maintain a local database that holds more detail than AUGIS and is used to provide data for mortality and morbidity meetings.
- Hold HPB outcome assessment meetings.
- Have a HPB Quality Improvement Program [QIP], whereby all surgical complications are discussed and graded at a weekly meeting. Errors are indentified and an action plan implemented after each complication.

We collect data at the individual surgeon level and are moving to reporting all indicators, in particular survival at the individual surgeon level.

Patient experience

The patients' experience will continue to be a primary consideration when measuring the effectiveness of our service, or when introducing changes to it.

We have implemented a number of quality initiatives to improve the experience for patients treated in our hospitals. These include:

- Ward accreditation programme
- 'Change one thing' initiative
- Improving quality programme.
- Brilliant Basics programme
- Patient experience DVD

We hold patient listening events where we obtain feedback from patients on their experience of our service. We participate in the National Inpatient survey and the National Cancer Survey; however we recognise that these are all based on a relatively small sample of patients. In order to improve the quality of our intelligence about what patients really think about our services we have introduced electronic real-time patient feedback devices. These allow patients to provide immediate feedback on their opinions on the quality of their care and overall experience. Based on this feedback ward staff identify issues that need to be addressed.

We are currently undertaking a research study looking at patients' experience at all stages of the pathway. This is on-going and will last approximately 12 months. Data obtained from this study will be used to further refine our service offering.

We intend to develop a joint web site which will provide information about the service as well as clinical outcome data.