Manchester Cancer

Greater Manchester and Oswestry Sarcoma Service (GMOSS) Pathway Board

Constitution

July 2014

Review date: July 2015

CONTENTS

1. INTRODUCTION

2013/14 was a transitional year for cancer services in Greater Manchester and East Cheshire. The Greater Manchester and Cheshire Cancer Network ceased to exist in March 2013 when cancer networks nationally were amalgamated into strategic clinical networks as part of the NHS reorganisation. In Greater Manchester this coincided with the creation of Manchester Cancer, an integrated cancer system for Greater Manchester and East Cheshire.

Twenty Manchester Cancer Pathway Clinical Directors were appointed in late 2013 and took up their roles on 1st January 2014. They spent the first months in post forming their Pathway Boards, multi-professional clinical groups from across the region. These Pathway Boards are now formed and most had their first meeting in April/May of 2014.

As such, this is a transitional constitution document based on the legacy document. In July 2015 every Manchester Cancer Pathway Board will publish a full constitution alongside its annual report and work plan for the year ahead.

2. CONFIGURATION (MEASURE 14-1C-101L)

The Greater Manchester and Oswestry Sarcoma Service (GMOSS) is based primarily around three Hospitals, namely Manchester Royal Infirmary (MRI) which is part of Central Manchester University Hospitals Foundation Trust (CMFT), Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust (RJAH) located in Oswestry, and The Christie NHS Foundation Trust. At present GMOSS provide specialist care for patients with all types and stages of soft tissue and bone sarcoma across the North West, West Midlands and Mid Wales. The majority of patients however are resident within Greater Manchester, Cheshire, Shropshire, Hertfordshire, Staffordshire and Powys. The patient population is therefore drawn from several adjoining clinical networks, namely Greater Manchester, Lancashire and South Cumbria Clinical Network (GMLSCCN), Merseyside and Cheshire Clinical Network (MCCN) and West Midlands Clinical Network. Within this geographical area there are two further sarcoma services, namely The Liverpool Sarcoma Service and the Birmingham Sarcoma Service. Teenage and young adult (TYA) patients with soft tissue sarcoma residing in the Lancashire and South Cumbria Cancer Network (LSCCN) are referred into GMOSS. The present service covers a population of approximately 4 million residents:

- Greater Manchester and Cheshire ~ 3.2m
- Greater Midlands ~160,000
- North Wales ~ 675,000
- LSCCN TYA ~ 109,000

Diagnostic services are provided at MRI (soft tissue only) and RJAH Hospitals (bone and soft tissue). Core resection services are based at MRI (soft tissue only) and RJAH Hospitals (bone and soft tissue). The Christie Hospital provides specialist care with onco-plastic support, a retroperitoneal resection service, chemotherapy and radiotherapy services. GIST patients requiring systemic treatment are managed at The Christie.

- **The Manchester Royal Infirmary Hospital** (**MRI)** is part of the Central Manchester University Hospitals NHS Foundation Trust) and is located in Manchester City centre. It is a large University Teaching Hospital offering all major specialties with a large Orthopaedic Department. It has specialist oncological orthopaedic, pathology and radiology services in sarcoma management and provides the sole soft tissue diagnostic service and the principle soft tissue resection service for extremity sarcomas in Greater Manchester. CMFT has one

of only two supra-regional neurofibromatosis centres which work closely with the MDT in the management of patients with suspected malignant peripheral nerve sheath tumours.

- **The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust (RJAH)** is a dedicated specialist orthopaedic hospital based near the Welsh border in Oswestry. It is funded by the National Specialist Commissioning Group (NSCG) to provide a diagnostic and treatment service for suspected bone sarcomas and in addition provides a diagnostic and resection service for soft tissue sarcomas. It is the designated referral centre for patients with confirmed or suspected sarcomas residing in North Wales and has specialist oncological orthopaedic, pathology and radiology services in sarcoma management.
- **The Christie NHS Foundation Trust** is a tertiary cancer centre located in Withington 2 miles from MRI. It is a centre of excellence for cancer treatment providing specialist surgical oncology, medical and clinical oncology, pathology and radiology. There are also specialist facilities and expertise for teenage and young adults with cancer. In terms of sarcoma, specialists in onco-plastics offer a resection service for soft tissue sarcomas arising from the scalp, head and neck (excluding oral cavity, pharynx, larynx), trunk, axilla and groin, as well as a reconstruction service following larger resections. There is also a dedicated retroperitoneal service. Dedicated radiotherapy and chemotherapy services are based here.

The structure of the service is designed to reflect the operational requirements of the sarcoma units and the necessity to fulfil national guidance, such as are set out in the Manual of Cancer Services and the Improving Outcomes Guidance for Sarcoma. This service is complex, reflecting:

- The complexities of managing all types of sarcoma
- The large number of patients seen
- The geographical split between the NHS Trusts
- The need to maintain clear and effective working relationships with a large number of partners, across a large population area

GMOSS has a large team of clinicians, radiologists, pathologists, specialist nurses and allied healthcare professionals (including physiotherapists, dieticians, occupational therapists) caring for patients across the three Trusts. This multidisciplinary team working is coordinated by separate MDT coordinators at Christie and MRI. The service has also developed a network of site-specific extended multidisciplinary teams to offer sarcoma specific treatment for tumours arising at sites other than the limbs or trunk.

The core service comprises four sarcoma surgeons, two onc-plastic surgeons, two medical oncologist, two clinical oncologists, one dedicated TYA oncologist, three musculo-skeletal radiologists, five specialist sarcoma pathologists (SSP's) and one clinical nurse specialists (CNS) at each site, all with a special interest in sarcoma. The sarcoma service screens and recruits patients to clinical trials and is assisted by a dedicated clinical trials nurse and a data manager based at The Christie.

A core weekly multi-disciplinary team meeting (MDT) between the sites is held where all confirmed new, highly suspected or recurrent sarcoma cases are discussed to formulate a management plan.

GMOSS provides a diagnostic and treatment service for patients with both bone and soft tissue sarcoma across the North West, West Midlands and Mid Wales. The majority of patients however are resident within Greater Manchester, Cheshire, Shropshire, Hertfordshire, Staffordshire and Powys. The patient population is drawn from several adjoining strategic clinical networks, namely Greater Manchester, Lancashire and South Cumbria Clinical Network (GMLSCCN), Merseyside and Cheshire Clinical Network (MCCN) and West Midlands Clinical Network (WMCN). Within this geographical area there are two further sarcoma services, namely The Liverpool Sarcoma Service and the Birmingham Sarcoma Service. Teenage and young adult (TYA) patients with soft tissue sarcoma residing in the Lancashire and South Cumbria Cancer Network (LSCCN) are referred into GMOSS.

The North West SCG had previously agreed with the now devolved Network Boards of GMCCN and GMCN and NSCG (bone) that:

- A single SAG will operate to oversee the management of all soft tissue and bone sarcomas for patients $\geq$ 16 years residing in the previously defined boundaries of the now disbanded GMCCN and parts of GMCN.
- The SAG will be a multi-professional group made up of health professionals from organisations across the Greater Manchester and Oswestry Sarcoma Service (GMOSS) covering a population of ~4 million for both bone and soft tissue sarcomas
- The Host Trust for the multidisciplinary team (MDT) is Central Manchester University Hospitals NHS Foundation Trust (CMFT) and the host network is Greater Manchester and Cheshire Cancer Network (now GMLSCCN).
- Core curative resection services for soft tissue sarcomas are based at MRI and RJAH. Patients needing onco-plastic support for resection/reconstruction are referred to the onco-plastic team at Christie.
- Diagnostic clinics for soft tissue lumps are based at MRI and RJAH
- Bone diagnostic and treatment services are based at RJAH which is an NSCG agreed site for this.
- Retroperitoneal sarcomas are referred to the Christie retroperitoneal service for MDT discussion between the Christie pelvic team (responsible for the retroperitoneal resection service) and the non-surgical core members of GMOSS MDT.
- All new or relapsed patients with proven or suspicious sarcoma are discussed at a weekly multi-disciplinary meeting (MDT) which is hosted at CMFT on Wednesday afternoons 3.30-5.30. All core members attend in person of via video-conferencing.

With the disappearance of GMCCN it has been agreed that the administrative support to the SAG will be provided by Manchester Cancer and re-named the Greater Manchester and Oswestry Sarcoma Pathway Board.

Manchester Cancer

Manchester Cancer covers a population just over 3.3 million.

The Acute Trusts in Manchester Cancer:
Bolton Hospital NHS Foundation Trust
Central Manchester University Hospitals NHS Foundation Trust
The Christie NHS Foundation Trust
East Cheshire NHS Trust
Pennine Acute Hospitals NHS Trust (Bury, North Manchester, Oldham, Rochdale)

Salford Royal NHS Foundation Trust
Stockport NHS Foundation Trust
Tameside Hospital NHS Foundation Trust
University Hospital of South Manchester NHS Foundation Trust
Wrightington Wigan and Leigh NHS Foundation Trust

The Greater Midlands Strategic Clinical Network (GMSCN)

This network serves a population of just over 1.9 million across Shropshire, Staffordshire, Black Country, Wyre Forest and parts of Powys.

The Acute Trusts in GMSCN:
University Hospital of North Staffordshire NHS Trust (UHNS)
Mid Staffordshire NHS Foundation Trust
The Royal Wolverhampton Hospitals NHS Trust
The Dudley Group of Hospitals NHS Foundation Trust
The Shrewsbury and Telford Hospital NHS Trust
Worcestershire Acute Hospitals NHS Trust
The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust

The majority of the previous GMSCN population is served by the Birmingham Sarcoma Service which is jointly delivered by University Hospitals Birmingham Foundation Trust and Royal Orthopaedic Hospital Foundation Trust in Birmingham. However, a proportion of the Shropshire PCT Population and the Powys population are served by GMOSS for limb/trunk soft tissue sarcoma and bone sarcomas, with treatment centres in Oswestry and Manchester. Sarcomas arising at other anatomical sites are not the responsibility of GMOSS and separate pathways are being developed by GMSCN.

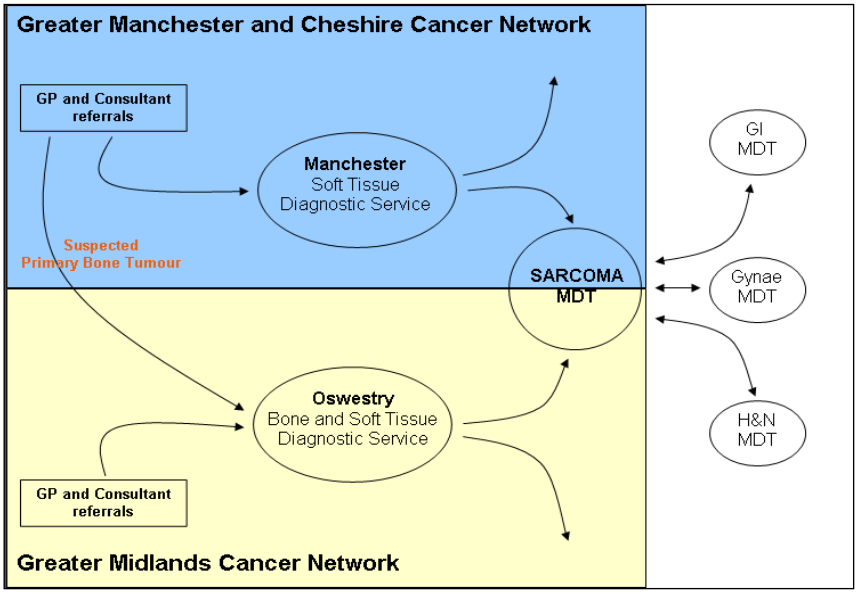
These flows are demonstrated in table 1 below.

Table 1, patient flows, by PCT for Bone and Soft Tissue Sarcoma

Referring PCT	Birmingham service	GMOSS service
Dudley	306,500	
Shropshire County	194,800	100,000
Telford and Wrekin	164,800	
North Staffordshire	213,400	
Stoke on Trent	248,200	
Wolverhampton	236,800	
South Staffs (population shared with other networks)	613,200	
Worcestershire (population shared with other networks)	392,800	
Powys (proportion that flows to England)		61,000
Totals	2,470,500	161,000

MDT. All bone surgery is done at RJAH. .

The service is configured with two diagnostic services for soft tissue sarcoma and one diagnostic service for bone sarcomas and a single treatment MDT as illustrated in the following diagram:



RJAH and MRI run diagnostic outpatient clinics. There is no diagnostic clinic at Christie. All cases seen at RJAH and MRI are discussed at a diagnostic multi-disciplinary meetings (MDMs) on a weekly basis with surgical, radiology and pathology input. The confirmed/highly suspicious sarcoma cases from these MDMs are booked onto the next GMOSS MDT.

2.1 Designated Chemotherapy and Radiotherapy Services (Measure 14-1C-102l) and Practitioners (Measure 14-1C-107l)

It has been agreed that the designated chemotherapy service for adjuvant or neo-adjuvant chemotherapy given with curative intent for all bone and soft tissue sarcoma is either at The Christie or Clatterbridge Cancer Centre. The designated chemotherapy services for any palliative chemotherapy are at The Christie, Clatterbridge Cancer Centre, Rosemere Cancer Centre Royal Preston Hospital (RPH), Royal Lancaster Infirmary and Glan Clywd Hospital.

Name	Role	Hospital
Dr M Leahy	Consultant Medical Oncologist (lead)	Christie
Dr L Horsley	Consultant Medical Oncologist	Christie
Dr N Ali	Consultant Medical Oncologist	Clatterbridge Cancer Centre
Dr R Gattamaneni	Consultant Clinical Oncologist. TYA only	Christie
Dr M Mcabe	Consultant Paediatric Medical Oncologist. TYA only	Christie
Dr O Parikh	Consultant Clinical Oncologist	Rosemere Cancer Centre, Royal Preston Hospital
Dr D Fyfe	Consultant Medical Oncologist	Royal Lancaster infirmary
Dr D Eaton	Consultant Medical Oncologist	Royal Lancaster infirmary
Dr W Soe	Consultant Clinical Oncologist	Glan Clwyd Hospital

It has been agreed that patients referred for consideration of radical pre- or post-operative radiotherapy should initially be seen by a Clinical Oncologist who is a core member of GMOSS MDT. Those patients needing radical radiotherapy will be offered referral to the designated Radiotherapy Department closest to them, which are The Christie, Clatterbridge Cancer Centre, Rosemere Cancer Centre Royal Preston Hospital and Glan Clwyd Hospital.

Radical radiotherapy is less commonly indicated in bone sarcoma. However, if needed this will be delivered at The Christie or Clatterbridge Cancer Centre.

Name	Role	Hospital
Dr J Wylie	Consultant Clinical Oncologist (lead)	Christie
Dr C Coyle	Consultant Clinical Oncologist	Christie
Dr R Gattamaneni	Consultant Clinical Oncologist	Christie
Dr D Errington	Consultant Clinical Oncologist	Clatterbridge Cancer Centre
Dr F Alam	Consultant Clinical Oncologist	Clatterbridge Cancer Centre
Dr O Parikh	Consultant Clinical Oncologist	Rosemere Cancer Centre, Royal Preston Hospital
Dr W Soe	Consultant Clinical Oncologist	Glan Clwyd Hospital

Patients requiring palliative radiotherapy will be referred directly to their closest Radiotherapy Department.

2.2 Molecular Biology/Cytogenetic Facilities (Measure 14-1C-103l)

In-house conventional cytogenetic tests are available at all 3 sites within GMOSS (MRI, Christie and RJAH). Fluorescent In Situ Hybridization (FISH) analysis (e.g. FUS, EWS, MDM-2 and SYT) to detect sarcoma specific translocations in tumours such as Ewings, synovial sarcoma, liposarcomas etc are also available at all three sites. Samples for Polymerase Chain Reaction (RT-PCR) for Ewing's transcript variants are available at RJAH. Other tumour types requiring RT-PCR are sent to either Birmingham or Stanmore. Gastro Intestinal Stromal Tumor (GIST) mutational analysis are sent to the Regional Genetic Laboratory at CMFT.

2.3 Designated GIST histopathologists (Measure 14-1C-108l)

The following are designated GIST Histopathologists:

Name	Core MDT member	Hospital	EQA participation
Dr P Shenjere	Yes – GMOSS MDT	Christie	Yes - Sarcoma Soft Tissue
Dr D Nonaka	Yes – GMOSS MDT	Christie	Yes - Sarcoma Soft Tissue
Dr GR Armstrong	Yes – Upper GI SMDT	Salford Royal	Yes – Upper GI
Dr ST Hayes	Yes – Upper GI SMDT	Salford Royal	Yes – Upper GI
Dr E Benbow	Yes - Upper GI SMDT	MRI	Yes – Upper GI
Dr S McGrath	Yes - Upper GI SMDT	MRI	Yes – Upper GI
Dr G Howarth	Yes - Upper GI SMDT	MRI	Yes – Upper GI
Dr R McMahon	Yes - Upper GI SMDT	MRI	Yes – Upper GI
Dr A Davenport	Yes – Upper GI SMDT	UHSM	Yes – Upper GI
Dr S Pritchard	Yes – Upper GI SMDT	UHSM	Yes – Upper GI
Dr M Scott	Yes – Upper GI SMDT	UHSM	Yes – Upper GI

2.3 The Greater Manchester and Oswestry Sarcoma Pathway Board Terms of Reference (14-1C-105l)

The Pathway Board

The Greater Manchester and Oswestry Sarcoma Pathway Board is a cancer care specific board with responsibility to improve sarcoma outcomes and patient experience for local people across Greater Manchester, areas of Cheshire and those geographical areas covered by the Greater Manchester and Oswestry Cancer Service (GMOSS). These terms of reference are in addition to those previously outlined by the Sarcoma Advisory Group in the constitution documentation of GMOSS.

The Pathway Board is led by a Pathway Clinical Director and is formed of a multidisciplinary team of clinicians and other staff from all of hospital trusts that are involved in the delivery of sarcoma care in Greater Manchester and Oswestry. The Pathway Board also has membership and active participation from patients representatives.

The Greater Manchester and Oswestry Sarcoma Pathway Board reports into and is ultimately governed and held to account by the Greater Manchester Cancer Services Provider Board.

Greater Manchester Cancer Services Provider Board

The Greater Manchester Cancer Services Provider Board is responsible for the service and clinical delivery arm of Manchester Cancer, Greater Manchester's integrated cancer system. Manchester Cancer has two other arms: research and education (see appendix for the structure of Manchester Cancer).

The Provider Board is independently chaired and consists of the Chief Executive Officers of the ten acute hospital trusts in the Greater Manchester area:

- Bolton NHS Foundation Trust
- Central Manchester University Hospitals NHS Foundation Trust
- East Cheshire NHS Trust
- Pennine Acute NHS Trust
- Salford Royal NHS Foundation Trust
- Stockport NHS Foundation Trust
- Tameside Hospital NHS Foundation Trust
- The Christie NHS Foundation Trust
- University Hospital of South Manchester NHS Foundation Trust;
- Wrightington, Wigan and Leigh NHS Foundation Trust;

The Provider Board regularly invites representatives of commissioners, the Strategic Clinical Network, and Manchester Cancer to its meetings.

Purpose of the Pathway Board

The purpose of the Pathway Board is to improve cancer care for patients on the Greater Manchester and Oswestry Sarcoma cancer pathway. Specifically, the Pathway Board aims to save more lives, put patients at the centre of care, and improve patient experience. The Board will represent the interests of local people with cancer, respecting their wider needs and concerns. It is the primary source of clinical opinion on this pathway for the Greater Manchester Cancer Services Provider Board and Greater Manchester's cancer commissioners.

The Pathway Board will gain a robust understanding of the key opportunities to improve outcomes and experience working in partnership with Oswestry Sarcoma providers by gathering and reviewing intelligence about the Sarcoma pathway. It will ensure that objectives are set, with a supporting work programme that drives improvements in clinical care and patient experience.

The Pathway Board will also promote equality of access, choice and quality of care for all patients within Greater Manchester, irrespective of their individual circumstances. The Board will also work with cancer commissioners to provide expert opinion on the design of any commissioning pathways, metrics and specifications.

Role of the Pathway Board

The role of the Greater Manchester and Oswestry Provider Board is to:

Represent the Greater Manchester Cancer Services professional and patient community for sarcoma.

As a minimum promote an IOG compliant service achieving high compliance with the nationally agreed Sarcoma Measures.

Identify specific opportunities for improving outcomes and patient experience and convert these into agreed objectives and a prioritised programme of work.

Gain approval from Greater Manchester's cancer commissioners and the Greater Manchester Cancer Services Provider Board for the programme of work and provide regular reporting on progress.

Design and implement new services for patients where these progress the objectives of commissioners and Greater Manchester Cancer Services, can be resourced, and have been shown to provide improvements in outcomes that matter to patients.

Ensure that diagnosis and treatment guidelines are agreed and followed by all teams in provider trusts, and are annually reviewed.

Ensure that all providers working within the pathway collect the pathway dataset measures to a high standard of data quality and that this data is shared transparently amongst the Pathway Board and beyond.

Promote and develop research and innovation in the pathway, and have agreed objectives in this area.

Monitor performance and improvements in outcomes and patient experience via a pathway scorecard, understanding variation to identify areas for action.

Escalate any clinical concerns through provider trusts.

Highlight any key issues that cannot be resolved within the Pathway Board itself to the Medical Director of Greater Manchester Cancer Services for assistance.

Ensure that decisions, work programmes, and scorecards involve clearly demonstrable patient participation.

Share best practices with other Pathway Boards within Greater Manchester Cancer Services.

Contribute to cross-cutting initiatives (e.g. work streams in living with and beyond cancer and early diagnosis).

Discuss opportunities for improved education and training related to the pathway and implement new educational initiatives.

Develop an annual report of outcomes and patient experience, including an overview of progress, difficulties, peer review data and all relevant key documentation. This report will be published in July of each year and will be the key document for circulation to the Provider Board. A template for this report is available so that all Pathway Boards complete the report in a similar manner.

Membership principles

All member organisations of Greater Manchester Cancer Services will have at least one representative on the Pathway Board unless they do not wish to be represented.

Provider trusts not part of Greater Manchester Cancer Services can be represented on the Pathway Board if they have links to the Greater Manchester sarcoma pathway.

All specialties and professions involved in the delivery of the pathway will be represented.

The Board will have at least one patient or carer representative within its membership

One professional member of the Pathway Board will act as a Patient Advocate, offering support to the patient and carer representative(s).

The Board will have named leads for:

- Early diagnosis
- Pathology
- Radiology
- Surgery
- Oncology
- Specialist nursing
- Living with and beyond cancer ('survivorship')
- Research
- Data collection (clinical outcomes/experience and research input).

It is possible for an individual to hold more than one of these posts. The Pathway Clinical Director is responsible for their fair appointment and holding them to account.

These named leads will link with wider Greater Manchester Cancer Services Boards for these areas where they exist.

All members will be expected to attend regular meetings of the Pathway Board to ensure consistency of discussions and decision-making (meeting dates for the whole year will be set annually to allow members to make arrangements for their attendance).

A register of attendance will be kept: members should aim to attend at least 5 of the 6 meetings annually and an individual's membership of the Pathway Board will be reviewed in the event of frequent non-attendance.

Each member will have a named deputy who will attend on the rare occasions that the member of the Board cannot.

Frequency of meetings

The Greater Manchester and Oswestry Pathway Board will meet every two months.

Quorum

Quorum will be the Pathway Clinical Director plus five members of the Pathway Board or their named deputies.

Communication and engagement

Accurate representative minutes will be taken at all meetings and these will be circulated and then validated at the next meeting of the Board.

All minutes, circulated papers and associated data outputs will be archived and stored by the Pathway Clinical Director and relevant Pathway Manager.

The Pathway Board will design, organise and host at least one open meeting per year for the wider clinical community and local people. This meeting or meetings will include:

- An annual engagement event to account for its progress against its work programme objectives and to obtain input and feedback from the local professional community

- An annual educational event for wider pathway professionals and interested others to allow new developments and learning to be disseminated across the system

Representatives from all sections of the Greater Manchester Cancer Services professional body will be invited to these events, as well as patient and public representatives and voluntary sector partners.

An annual report will be created and circulated to the Medical Director of the Greater Manchester Cancer Services Provider Board by 31st July of each calendar year.

The agendas, minutes and work programmes of the Pathway Board, as well as copies of papers from educational and engagement events, will be made available to all in an open and transparent manner through the Greater Manchester Cancer Services website once this has been developed.

Administrative support

Administrative support will be provided by the relevant Pathway Manager with the support of the Greater Manchester Cancer Services core team. Over the course of a year, an average of one day per week administrative support will be provided.

2.4 Sarcoma Pathway Board Membership (Measure 11-1C-104l)

Name	Title and Organisation	Capacity on Group	Deputy
Dr James Wylie	Consultant Clinical Oncologist, The Christie	Chairman. Data lead. Lead Clinical Oncologist	Mr Paul Cool
Mr Paul Cool	Consultant Orthopaedic Oncological Surgeon , RJAH	Chairman GMOSS MDT. RJAH sarcoma and diagnostic lead. Early diagnosis lead	Miss G Cribb
Dr Mike Leahy	Consultant Medical Oncologist, The Christie	Lead Medical Oncologist. Research lead	Dr Laura Horsley
Mr Ashok Paul	Consultant Orthopaedic Oncological Surgeon , CMFT	CMFT sarcoma and diagnostic lead	Mr J Gregory
Mr Jonathan Gregory	Consultant Orthopaedic Oncological Surgeon , CMFT	Surgery and data lead	
Mr David Mowatt	Consultant Plastic and Reconstructive Surgeon, Christie	Onco-plastic lead. Living with and beyond cancer lead	Ms V r Oudit
Dr Naomi Winn	Consultant Musculo-skeletal Radiologist, CMUHFT	Lead Radiologist	Dr R Lalam
Sister Caroline Pemberton	Sarcoma CNS, RJAH	Lead CNS	Sr H Murray and A Buchan
Dr Patrick Shenjere	Consulltant Histopathologist, Christie	Lead Histopathologist	Prof A Freemont
Miss Maxine Cumbo	Physiotherapist, CMFT	Lead Physiotherapist Responsible for user issues and information for patients and carers	
Margaret Roberts (TBC)	Patient	User representative	
Gary Whittaker (TBC)	Patient	User representative	
Mrs Hodan Noor	Manchester cancer	Sarcoma Pathway Manager	
Mr Damian Heron			

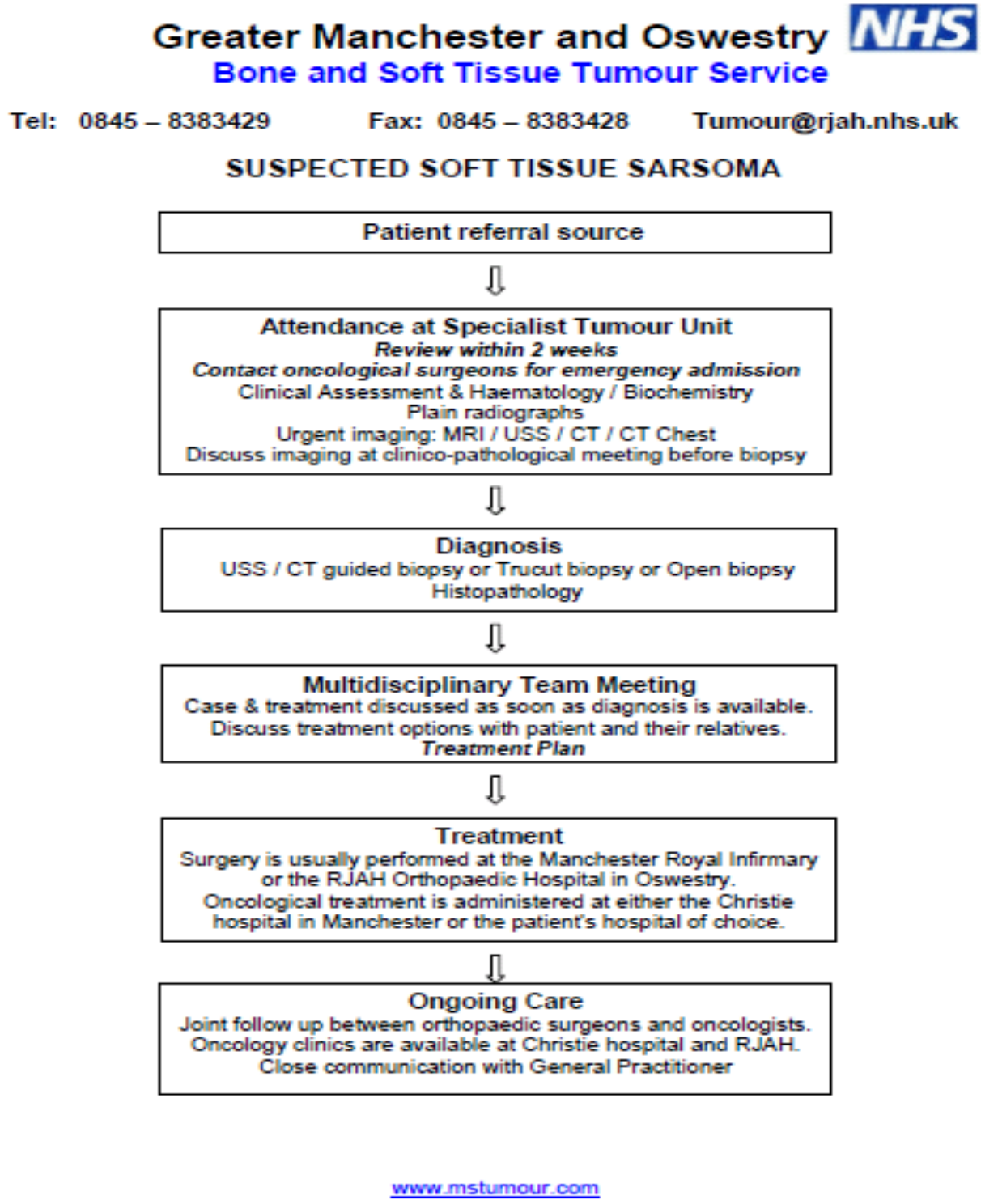
3. PATHWAYS AND GUIDELINES

The Pathway Board has only been in place since spring 2014 and has not yet had the opportunity to review its clinical guidelines and patient pathways. As such, the guidelines created by the previous cancer network group have been adopted until such time as they can be reviewed and updated in the coming year.

All of the relevant documentation has been migrated from the old cancer network website and can now be found at www.manchestercancer.org.

A full list of active current guidelines and their renewal dates will be produced for the updated constitution of July 2015.

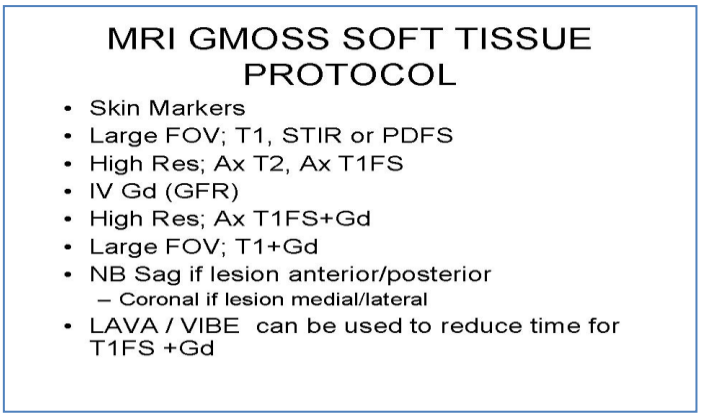
3.1 Clinical Guidelines for Soft Tissue Sarcomas of the Limb and Trunk Wall (Measure 14-1C-109l)



It has been agreed by GMOSS that:

- It is permitted for patients to have the required radiological investigation prior to referral but only if this is not going to impede the pathway.
- All patients with confirmed sarcoma require a staging CT thorax within 2 months of definitive first treatment. For those patients with ALT/WDL a chest x-ray is sufficient.

- All patients require an MRI of the affected area. The MRI should adhere to the MRI soft tissue protocol.



- All relevant imaging will be reviewed at the MDM. Additional imaging may be requested by the MDM or following the GMOSS MDT meeting
- In terms of laboratory and histopathological/histochemical investigations the pathologists within the Network adopt and follow the guidelines issued by the Royal College of Pathologists:
  http://www.rcpath.org/Resources/RCPath/Migrated%20Resources/Documents/G/g094datasetsofttissue.pdf

  http://www.rcpath.org/Resources/RCPath/Migrated%20Resources/Documents/G/g105tpforboneandsofttissuefinalfeb11.pdf
- Biopsy should only be performed within the designated diagnostic clinics at RJAH and MRI. An unexpected diagnosis of sarcoma following an excision biopsy should prompt immediate referral onward to the designated diagnostic clinics at RJAH and MRI.

Algorithm for diagnostic clinic

Size	Depth	Action
< 5 cm	Superficial	Consider excisional biopsy, but image first if concern
	Deep	Imaging, then consider biopsy
> 5 cm	Superficial	Imaging, then consider biopsy
	Deep	Imaging, then consider image guided biopsy

N.B. the above table is for guidance only and the diagnostic clinician responsible for the patient's care will decide upon the most appropriate staging and biopsy method

- All biopsies should be referred either directly or for a confirmatory opinion, to a specialist soft tissue sarcoma pathologist (SSP) prior to treatment planning decisions being taken

  Prof A Freemont (MRI)
  Dr G Hall (MRI)
  Dr Chas Mangham (RJAH)
  Dr P Shenjere (Christie)
  Dr D Nonaka (Christie)

National Musculoskeletal Pathology EQA Scheme for soft tissue sarcoma – List of GMOSS Pathologists:

Participants Name	Hospital Base	Soft Tissue	Date Joined
Prof A Freemont	CMFT	Yes	1997
Dr DC Mangham	RJAH	Yes	1998
Dr D Nonaka	Christie	Yes	2010
Dr P Shenjere	Christie	Yes	2007
Dr G Hall	CMFT	Yes	2011

- All small cell sarcomas will have molecular/cytogenetic testing. In-house conventional cytogenetic tests are available at all 3 sites within GMOSS. Fluorescent In Situ Hybridization (FISH) analysis (e.g. FUS, EWS, MDM-2 and SYT) to detect sarcoma specific translocations in tumours such as Ewings, synovial sarcoma, liposarcomas etc are also available at all three sites. Samples for Polymerase Chain Reaction (RT-PCR) for Ewing's transcript variants are available at RJAH. Other tumour types requiring RT-PCR are sent to either Birmingham or Stanmore. Gastro Intestinal Stromal Tumor (GIST) mutational analyses are sent to the Regional Genetic Laboratory at CMFT.

NOTE
Patients with symptoms of recurrence should either be referred back to the core GMOSS member who treated the patient or can be re-referred via the diagnostic clinics using the agreed referral form.

3.2 Clinical Guidelines for Bone Sarcomas (Measure 14-1C-110l)

This pathway has been circulated to primary care via the former GMCCN Primary Care Group.

Guidelines for referral are obtainable on www.mstumour.com

All patients with a proven or suspicious bone sarcoma within GMCCN and defined areas within GMCN should be referred directly to RJAH for complete diagnostic work up and surgical treatment. These include:

- all patients with X-rays or other images (including incidental findings) which are thought to be possibly indicative of a primary bone sarcoma.
- all patients with clinical symptoms (nocturnal or non-mechanical pain) or signs suspicious of a primary bone sarcoma.
- all patients diagnosed post-operatively with a previously unsuspected bone sarcoma.
- All patients with symptoms or signs of recurrence

Greater Manchester and Oswestry NHS
Bone and Soft Tissue Tumour Service

Tel: 0845 – 8383429 Fax: 0845 – 8383428 Tumour@rjah.nhs.uk

SUSPECTED PRIMARY MALIGNANT TUMOUR OF BONE

Patient referral source

⇩

Attendance at Specialist Tumour Unit
Review within 2 weeks
Contact oncological surgeons for emergency admission
Clinical Assessment & Haematology / Biochemistry
Plain radiographs
Urgent imaging: MRI / CT / Bone Scan / CT Chest
Discuss imaging at clinico-pathological meeting before biopsy

⇩

Diagnosis
CT guided biopsy or Open Biopsy
Histopathology

⇩

Multidisciplinary Team Meeting
Case & treatment discussed as soon as diagnosis is available.
Discuss treatment options with patient and their relatives.
Treatment Plan

⇩

Treatment
Surgery is performed at the RJAH Orthopaedic Hospital.
Oncological treatment is administered at either the Christie hospital in Manchester or the patient's hospital of choice.

⇩

Ongoing Care
Joint follow up between orthopaedic surgeons and oncologists.
Oncology clinics are available at Christie hospital and RJAH.
Close communication with General Practitioner

www.mstumour.com

It is agreed that biopsy of suspected patients should only be carried out by RJAH.

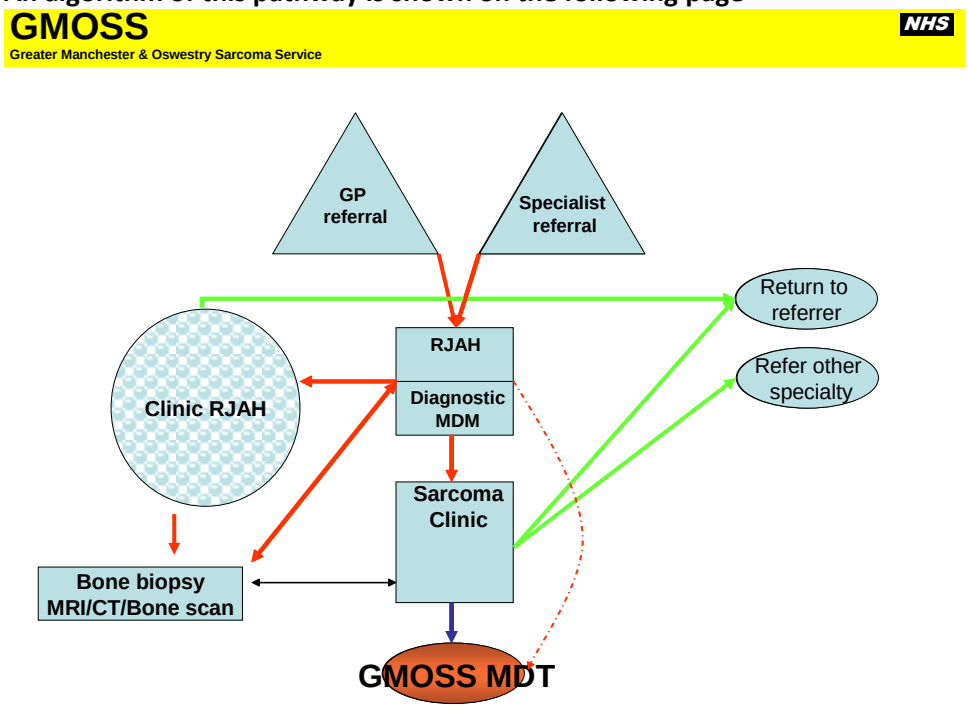
All small cell sarcomas have molecular/cytogenetic testing on site at RJAH e.g. fluorescent In Situ Hybridization (FISH) analysis (e.g. FUS, EWS, MDM-2 and SYT) to detect sarcoma specific translocations in tumours such as Ewings. Samples for Polymerase Chain Reaction (RT-PCR) for Ewing's transcript variants are also available at RJAH

Referrals should be faxed to the tumour office and are triaged daily. The same referral form is used for bone and soft tissue tumours and is obtained from Tumour@rjah.nhs.uk and is shown on page 20.

Tel 0845 8383429
Fax 0845 8383428
E-mail Tumour@rjah.nhs.uk

Patients with symptoms of recurrence should either be referred back to the core GMOSS member who treated the patient or can be re-referred via the diagnostic clinics using the agreed referral form.

An algorithm of this pathway is shown on the following page



3.3 Clinical Guidelines for Soft Tissue Sarcomas presenting to Site Specialised MDT (Measure 14-1C-111l)

These are included in section 3.9 below.

3.4 Chemotherapy Treatment Algorithms (Measure 14-1C-112l)

The following algorithm provides a summary of the present chemotherapy schedules used in patients with soft tissue sarcoma

Sarcoma Type	Treatment
STS (LMS, Lipo-, Synovial, etc.)	Doxorubicin/Ifosfamide combination Doxorubicin SA Ifosfamide SA Trabectedin SA DTIC SA
Ewing	VIDE / VAI Irinotecan / Temozolamide HDCT Bu / Mel

	Oral etoposide
RMS	IVA / IVADo Vinorelbine + Cyclo maintenance Topo Cyclo Dox / Cyclo
Osteo & Non-osteo bone sarcoma	MAP Mifamutide AP AP 60/60
GIST	Imatinib 400 Imatinib 800 Sunitinib
Angiosarcoma	Paclitaxel 90 1W
Kaposi sarcoma	Liposomal doxorubicin (Caelyx) 20 2W
DFSP	Imatinib 400
Desmoid Fibromatosis	Tamoxifen +/- sulindac Metotrexate + Vinblastine Liposomal doxorubicin (Caelyx) 50 4W

All chemotherapy algorithms are accessed via the Christie intranet. These are live documents. The link is

http://nww.christie.nhs.uk/documents/default.aspx?Category=Y&Category1=1

3.5 Patient Pathways for Initial Referral and Diagnosis for Soft Tissue Sarcoma - Limb and Trunk (Measure 14-1C-113l)

This pathway has been circulated to primary care via the former GMCCN Primary Care Group.

While confirmed sarcoma diagnoses are rare, they are clinically indistinguishable from a variety of common benign conditions. Even by applying the criteria for urgent referral, it is thought that the ratio of benign to malignant diagnoses will be about 10 to 1. It is clear therefore that there is a significant diagnostic workload which must be addressed to identify the small number of patients with confirmed sarcoma and route them to the expert multi-disciplinary team.

As described in the IOG, ad hoc referral from GPs to local general surgeons may be contributing to the problem of delays in diagnosis of sarcomas and treatment by non-specialist clinicians and may account for poorer than necessary outcomes. The guidance mandates commissioners to set up, in each cancer network, centralised diagnostic services that will link smoothly and directly with Sarcoma MDTs for those with confirmed diagnoses. The diagnostic services must be clearly defined and publicised to local GPs and secondary tier services. This information will be shared with primary care via Primary Care Cancer Managers for them to distribue across their locality.

Criteria for urgent referral for suspicion of soft tissue sarcoma

Soft tissue sarcomas are a rare and heterogeneous group of tumours. Their recognition is important because timely investigation and treatment can result in cure. Their management requires close collaboration between designated specialists in a multi-disciplinary team and early referral to a specialist service will lead to the best clinical and cost effective care. The role of this team is to investigate and treat soft tissue ‘lumps’ which are potentially cancerous.

Soft tissue sarcomas increase in frequency with age. Some, particularly in younger patients, may be associated with familial syndromes such as neurofibromatosis. They usually present as a painless mass.

Indications for urgent referral of suspicious soft tissue masses to designated diagnostic clinics:

Size > 5cm diameter
Enlarging
Painful
Deep to the fascia
Recurrence at the site of previous excision regardless of histology

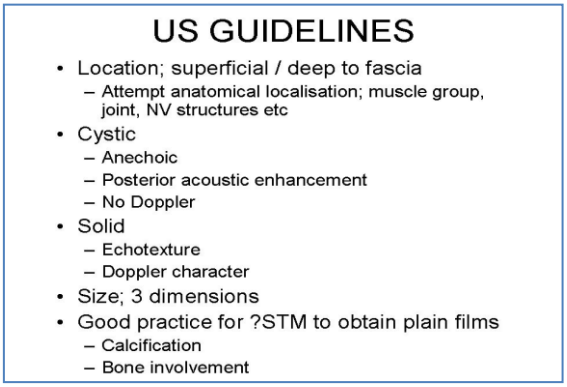
It has been agreed that any patient referred to his/her GP or non-sarcoma hospital Consultant with a lump of the extremity or trunk with any of these features should be referred urgently as an HSC205 referral to one of the designated diagnostic clinics.

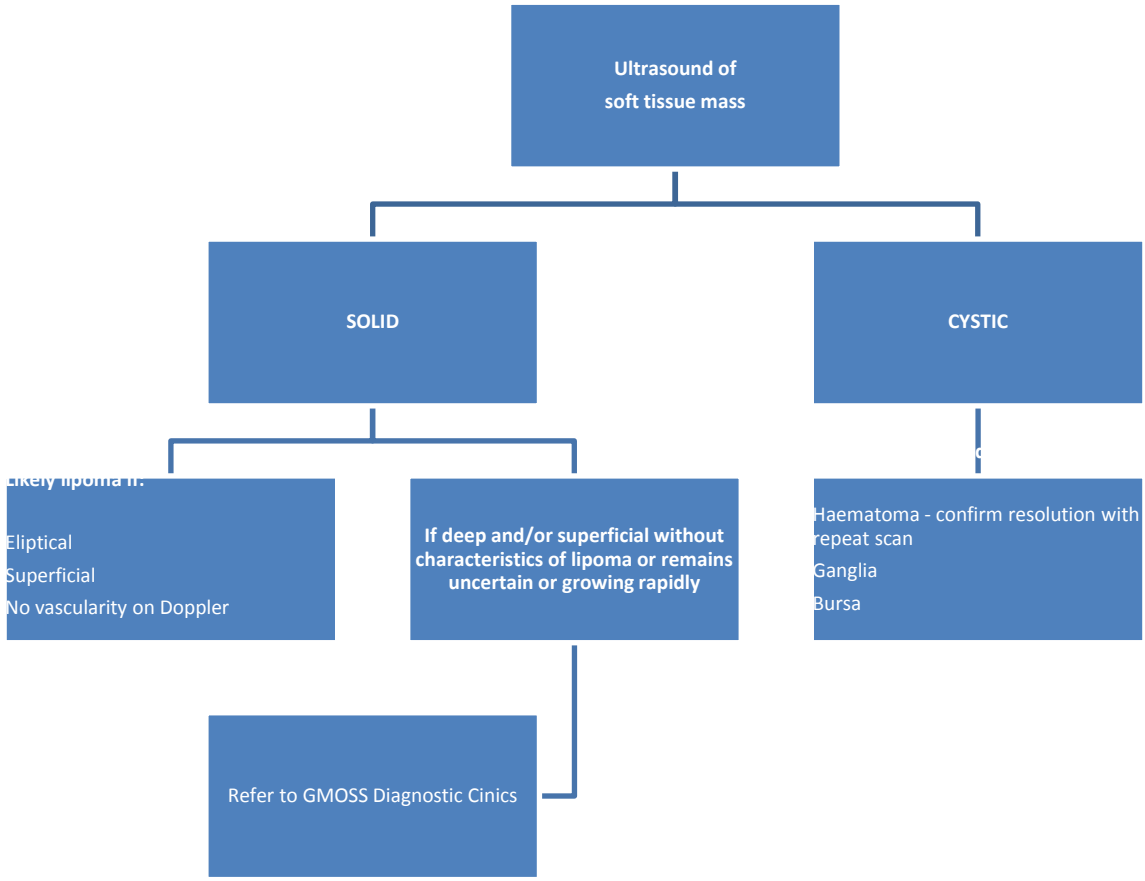
(NOTE - lymph node masses should initially be referred to the relevant site specific MDT as these are unlikely to be sarcomas. Neck lumps should also be referred initially to the neck lump clinic at the local hospital. Neck lump clinics are held at all hospitals except The Christie across GMCCN and at all hospitals in GMCN).

Designated Diagnostic Clinics:

Sarcoma diagnostic clinics are based at MRI and RJAH Hospitals and it has been agreed that all diagnostic interventions, including biopsy can be performed at these clinics. Broadly, patients from North Wales and the designated parts of GMCN will be referred to RJAH and patients from GMCCN will be referred to MRI. Guidelines for referrals and the specific referral form is available on www.mstumour.com or http://www.cmft.nhs.uk/royal-infirmary/our-services/greater-manchester-and-oswestry-sarcoma-service.aspx An example referral form is shown on page 21.

GPs and non-sarcoma Hospital Consultants can use ultrasound to better select patients at greatest risk of a sarcoma diagnosis prior to referral. GMOSS suggest the following flow diagram to be followed for this purpose. Alternatively, patients with extremity/trunk based lumps can be referred directly to MRI or RJAH diagnostic clinics for assessment and arrangement of appropriate investigations.



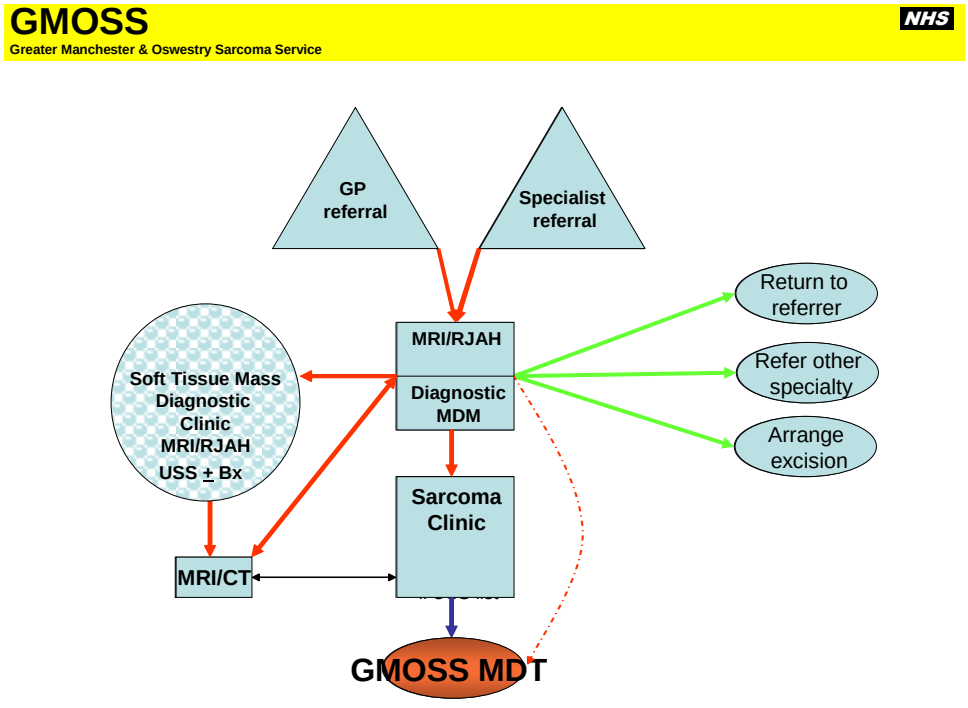


Terms of reference for the diagnostic clinics

- Diagnostic clinics are only based at MRI and RJAH Hospitals.
- They provide expertise in sarcoma diagnosis and deliver an efficient diagnostic pathway for patients with suspected sarcoma and ensure timely and accurate diagnosis
- Weekly multi-disciplinary meetings (MDM) are based at both RJAH and MRI which process all new referrals and agree additional investigations in order to confirm or refute a sarcoma diagnosis.
- The diagnostic clinics are responsible for ensuring that all appropriate investigation and intervention are performed on patients with a suspected sarcoma (e.g. review of outside excision specimen by specialist sarcoma pathologist, biopsy or excision biopsy as indicated, appropriate imaging e.g. MRI affected area and CT thorax)
- It is permitted for patients to have the required radiological investigation (Chest CT, MRI of affected area) prior to referral but only if this is not going to impede the pathway. MRI investigations should adhere to GMOSS MRI protocols (see below).
- At the end of the diagnostic pathway patients should broadly be identified as “definite sarcoma”, “possible sarcoma” , “non sarcoma malignancy” or “benign”
- Patients with proven benign or non sarcoma pathology are referred back to referring clinician or may be dealt with by diagnostic surgical group.
- Patients identified with possible or definite sarcoma are subsequently referred to the weekly GMOSS MDT in order for a multi-disciplinary management plan.
- The diagnostic service is available to all patients fulfilling the GP criteria for urgent referral with suspicion of soft tissue sarcoma living within the boundaries of the joint cancer networks. Referrals from further afield are also welcomed with a particular view towards North and Mid Wales and according to patient choice

- The team will also accept referrals from any secondary tier clinician within the joint cancer networks of a patient with a clinical suspicion of soft tissue sarcoma
- Additionally, the service will provide expert advice and, if appropriate, accept referrals of patients who do not fulfil the criteria for urgent referral but are strongly suspected to have a sarcoma diagnosis.
- The team will accept referrals from any clinician within the joint cancer networks of a patient with a confirmed sarcoma diagnosis
- Management of sarcoma in special anatomical locations may involve close liaison with a affiliated MDT
- The team will provide expert input on teenage and young adults (TYA) (16-24 years) with suspected sarcoma and will work in conjunction with the TYA MDT
- The team will also accept referrals from other geographical locations both nationally and internationally as would be appropriate for a highly specialised expert team.
- Any patient with such lesions should be immediately referred to the diagnostic service.
- Patient will be seen within two weeks of receipt of referral
- All patients with proven or highly suspected soft tissue sarcoma will be referred to the weekly GMOSS MDT for further discussion

NOTE
Patients with symptoms of recurrence should either be referred back to the core GMOSS member who treated the patient or can be re-referred via the diagnostic clinics using the agreed referral form.



MRI Diagnostic Service contact details

All urgent referrals should be faxed to the booking centre by the patient's GP, on 0161 276 8006 using the urgent referral form. As soon as the patient is referred, any scan or x-ray reports need to be sent urgently to the department.

Mr Ashok Paul	Lead Clinician (sarcoma and complex benign tumours)	0161 276 5068 (Oncology Secretary)
Mr Jonathan Gregory	Consultant Orthopaedic Surgeon (sarcoma and complex benign tumours)	0161 276 5068 (Oncology Secretary

RJAH Diagnostic Service contact details

Diagnostic services are run by Mr Cool or Miss Cribb at RJAH. Guidelines for referrals are available on www.mstumour.com
Referrals should be faxed to the tumour office and are triaged daily
An agreed proforma is shown below

Tel 0845 8383429
Fax 0845 8383428
E-mail Tumour@rjah.nhs.uk

GREATER MANCHESTER and OSWESTRY
Bone and Soft Tissue Sarcoma Service

URGENT REFERRAL FOR MUSCULO SKELETAL TUMOURS

SOFT TISSUE – MANCHESTER ROYAL INFIRMARY **TEL: 0161 276 3639 FAX: 0161 276 8006**
BONE AND SOFT TISSUE – OSWESTRY **TEL: 01691 404107 FAX: 01691 404268**

PATIENT DETAILS	**GP DETAILS**
NAME ADDRESS DATE OF BIRTH CONTACT PHONE NUMBER FIRST LANGUAGE INTERPRETER REQUIRED?	NAME ADDRESS PHONE DATE OF REFERRAL

MALIGNANCY SUSPECTED

SOFT TISSUE: > 5CM ☐ ENLARGING ☐ PAINFUL ☐ DEEP TO FASCIA ☐ LOCAL RECURRENCE ☐

PRIMARY BONE TU MOUR: ☐

METASTATIC BONE TUMOUR: BREAST ☐ RENAL ☐ PROSTATE ☐ LUNG ☐ THYROID ☐ OTHER ☐

SPINAL TUMOUR: REFER TO SPINAL TEAM

CLINICAL INFORMATION

PATEINT HISTORY

INVESTIGATIONS PERFORMED AND WHERE	WHAT HAS THE PATIENT BEEN TOLD

PLEASE FORWARD ANY RELEVANT IMAGING AND/OR RESULTS.

PLEASE FAX THIS FORM TO EITHER MANCHESTER ROYAL INFIRMARY FOR SOFT TISSUE TUMOURS AND OWESTRY FOR BONE TUMOURS.

www.mstumour.com

MRI Soft Tissue Diagnostic Service

The centralised diagnostic service for patients in the GMCCN and LSCCN (at present) with soft tissue tumours suspected as sarcoma is provided under the supervision of Mr Ashok Paul (lead) and Mr J Gregory, Consultant Orthopaedic Oncological Surgeons at MRI. A diagnostic MDM takes place each Monday where all new referrals with suspected soft tissue sarcoma are discussed. All available radiology and pathology are reviewed by core members of GMOSS MDT. Patients requiring additional biopsies or imaging generally have these performed at MRI by a core members of GMOSS MDT.

Diagnostic MDM members at MRI

Mr A Paul, Consultant Orthopaedic Oncological Surgeon (lead)
Mr J Gregory, Consultant Orthopaedic Oncological Surgeon
Professor A Freemont, Specialist Sarcoma Histopathologist Professor and Honorary Consultant in Osteoarticular Pathology
Dr G Hall, Specialist Sarcoma Histopathologist
Sister H Murray, Sarcoma CNS
Maxine Cumbo, Physiotherapist
Dr A Kirwadi, Consultant musculoskeletal Radiologist (MRI)
Dr N Winn, Consultant musculoskeletal Radiologist (MRI)[1]

Sarcoma Clinics

There are 2 clinics a week for suspected sarcoma. There are approximately 7 new patients seen and 10 follow up in each clinic. There is sarcoma CNS support for both clinics.

Mr J Gregory	Tuesday p.m.
Mr A Paul	Wednesday a.m.

Clinics are cancelled for Consultant leave but the two surgeons avoid taking annual leave together. There is the option for ad hoc clinics if patients need to be seen urgently.

RJAH Soft Tissue Diagnostic Service

The centralised diagnostic service for patients in the GMCN and North Wales for patients with soft tissue tumours is provided under the supervision of Mr Paul Cool (lead) and Miss G Cribb, Consultant Orthopaedic Oncological Surgeons at RJAH, Oswestry. A diagnostic MDM takes place Thursday morning 8.15-11.00 where all new referrals with suspected soft tissue sarcoma are discussed. All available radiology and pathology are reviewed by core members of GMOSS MDT. Patients requiring additional biopsies or imaging generally have this performed at RJAH by core members of GMOSS MDT.

Diagnostic MDM members at RJAH

Mr P Cool, Consultant Orthopaedic Oncological Surgeon (lead)
Miss G Cribb, Consultant Orthopaedic Oncological Surgeon
Dr C Mangham, Consultant Specialist Sarcoma Histopathologist
Dr R Lalam, Consultant Musculoskeletal Radiologist

Dr P Tyrrell, Consultant Musculo-skeletal Radiologist
Dr J Singh, Consultant Musculo-skeletal Radiologist
Sister C Pemberton, Sarcoma CNS
Kristin Grant , Physiotherapist
Elizabeth Nicholls, Occupational Therapist
Dr B Tins, Consultant Radiologist
Dr V Pullicino, Consultant Radiologist

Sarcoma Clinics

There are daily clinics for suspected sarcoma. There is CNS support for all clinics.

Mr P Cool	Monday a.m., Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday p.m.
Miss G Cribb	Monday p.m. (when required), Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday a.m.
Dr M Leahy	Thursday a.m. (alternate weeks)

Consultants offer cross cover for annual/professional leave.

3.6 Patient Pathways for Initial Referral and Diagnosis for Bone Sarcoma (Measure 14-1C-114l)

The centralised diagnostic service for patients in the GMCCN, LSCCN, selected parts of GMCN and North Wales with suspected bone sarcomas is provided under the supervision of Mr Paul Cool (lead) and Miss G Cribb, Consultant Orthopaedic Oncological Surgeons at RJAH, Oswestry. The unit is one of five units that is nationally accredited by AGNSS (Advisory Group for National Specialised Services) for the diagnosis and surgical treatment of patient with suspected primary bone tumours.

The unit can be contacted directly:

Phone: 01691 404 107
Fax: 01691 404 268

It has been agreed by GMOSS that:

- All patients who are suspected of having a malignant primary tumour of bone should be referred to the bone tumour unit in Oswestry directly.
- All investigations that are required (MRI, bone scan, CT and biopsy) will be performed in Oswestry as per national guidance and is funded by AGNSS
- All patients with confirmed sarcoma require a staging CT thorax within 2 months of definitive first treatment.
- All relevant imaging will be reviewed at the MDM. Additional imaging may be requested by the MDM or following the GMOSS MDT meeting
- In terms of laboratory and histopathological/histochemical investigations the pathologists within the Network adopt and follow the guidelines issued by the Royal College of Pathologists: http://www.rcpath.org/Resources/RCPath/Migrated%20Resources/Documents/G/g096datasethistopathologyreportsprimarybonetumours.pdf

http://www.rcpath.org/Resources/RCPath/Migrated%20Resources/Documents/G/g105tpforboneandsofttissuefinalfeb11.pdf

- All biopsies should be referred either directly or for a confirmatory opinion, to a specialist bone sarcoma pathologist (SSP) prior to treatment planning decisions being taken

  Dr Chas Mangham (RJAH)
  Prof J McClure (RJAH)

National Musculoskeletal Pathology EQA Scheme for bone sarcoma – List of GMOSS Pathologists:

Participants Name	Hospital Base	Bone	Date Joined
Dr D Nonaka	Christie	Yes	2010
Dr DC Mangham	RJAH	Yes	1998

- All small cell sarcomas will have molecular/cytogenetic testing. In-house conventional cytogenetic tests are available at RJAH. Fluorescent In Situ Hybridization (FISH) analysis (eg FUS, EWS, MDM-2 and SYT) to detect sarcoma specific translocations in tumours such as Ewings, synovial sarcoma, liposarcomas etc are also available at RJAH. Samples for Polymerase Chain Reaction (RT-PCR) for Ewing's transcript variants are available at RJAH. Other tumour types requiring RT-PCR are sent to either Birmingham or Stanmore.

RJAH Bone Diagnostic Service

A diagnostic MDM takes place Thursday morning 8.15-11.00 where all new referrals with suspected bone sarcomas are discussed. All available radiology is reviewed by core members of GMOSS MDT. Patients requiring biopsies or additional imaging generally have this performed at RJAH by core members of GMOSS MDT.

Diagnostic MDM members at RJAH

Mr P Cool, Consultant Orthopaedic Oncological Surgeon (lead)
Miss G Cribb, Consultant Orthopaedic Oncological Surgeon
Dr C Mangham, Consultant Specialist Sarcoma Histopathologist

Dr R Lalam, Consultant Musculoskeletal Radiologist
Dr P Tyrrell, Consultant Musculo-skeletal Radiologist
Dr J Singh, Consultant Musculo-skeletal Radiologist
Sister C Pemberton, Sarcoma CNS
Kristin Grant , Physiotherapist
Elizabeth Nicholls, Occupational Therapist
Dr B Tins, Consultant Radiologist
Dr V Pullicino, Consultant Radiologist

Sarcoma Clinics

There are daily clinics for suspected sarcoma. There is CNS support for all clinics.

Mr P Cool	Monday a.m., Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday p.m.
Miss G Cribb	Monday p.m. (when required), Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday a.m.
Dr M Leahy	Thursday a.m. (alternate weeks)

Consultants offer cross cover for annual/professional leave.

There is a dedicated biopsy theatre session Tuesday a.m.

Patients with symptoms of recurrence should either be referred back to the core GMOSS member who treated the patient or can be re-referred via the diagnostic clinics using the agreed referral form.

3.7 Patient Pathways for Assessment, Treatment and Follow Up for Soft Tissue Sarcoma - Limb and Trunk (Measure 14-1C-115l)

All patients aged $\geq$ 16 years old with proven soft tissue sarcoma will have their treatment plan (inc. surgery, radiotherapy and chemotherapy) agreed by GMOSS MDT. It is acknowledged that young people with cancer have distinct needs that require a separate care approach. Therefore, any patient aged 16-24 years will have their diagnosis and treatment plan determined by the GMOSS MDT meeting, but this plan will then be discussed and agreed with the teenage and young adult (TYA) MDT based at Christie. An overriding principle is that all patients aged 16-18 years inclusive should be referred to the TYA Principal Treatment Centre at Christie for treatment whereas all patients aged 19-24 years inclusive should at least be offered referral to TYA Principal Treatment Centre at Christie for their treatment.

Patients with palliative needs will be referred to local palliative care services either within specific hospitals or within the community.

Patients with a proven or highly suspected STS will be discussed at the weekly GMOSS MDT prior to initial active treatment, following surgical resection and at the time of future local or first distant relapse in order to agree the most appropriate multi-modality treatment. Patients are presented by the core member of GMOSS taking responsibility for the patient. All relevant histology and radiology is reviewed prior to the meeting by core GMOSS members. The extent of any surgical resection is discussed and the need for any onco-plastic support agreed. The utilisation and timing (pre or post-operative) of additional radiotherapy or chemotherapy (palliative or radical) is agreed. The group agree if there are any appropriate clinical trials available for the individual patient. Treatment planning decisions are made after discussion at MDT. The agreed treatment plan is then minuted at the time of the meeting and a core member assigned to action this plan. A key worker is also allocated to the patient.

Primary resection services for all limb STS are based at MRI or RJAH Hospitals and all surgery is performed by core surgical members of GMOSS. Patients with truncal resections or those requiring reconstruction are referred to the onco-plastic team at Christie.

All chemotherapy and radiotherapy is delivered by the designated Centres as detailed earlier (11-1A-105-6l).

It has been agreed that the national 'Guidelines for the Management of Soft Tissue Sarcomas' (2010) be adopted. These can be viewed on the Manchester Cancer website www.manchestercancer.org.

MRI treatment services for STS

There are 2 clinics a week for new/relapsed/follow up sarcoma. There are approximately 7 new patients seen and 10 follow up in each clinic. There is CNS support for both clinics.

Mr J Gregory Tuesday p.m.
Mr A Paul Wednesday a.m.

Clinics are cancelled for Consultant leave but the two surgeons avoid taking annual leave together. There is the option for ad hoc clinics if patients need to be seen urgently.

There are 2 all day operating lists a week utilised for sarcoma excision.

Mr A Paul All day Tuesday
Mr J Gregory All day Thursday

Theatre lists are cancelled for Consultant leave but cases are passed between Consultants to ensure timely treatment. Joint operating also occurs for complex cases, either between Mr Gregory and Mr Paul or with vascular / general surgical support.

Role	Name	Core Member of MDT ?	Contact Details
Consultant Orthopaedic Oncological Surgeon	Mr A Paul (lead)	Yes	0161 276 5068 (Oncology Secretary)
Consultant Orthopaedic Oncological Surgeon	Mr J Gregory	Yes	0161 276 4376 (Oncology Secretary)
Consultant Specialist Sarcoma Histopathologist	Professor A Freemont	Yes	0161 275 5266
Consultant Specialist Sarcoma Histopathologist	Dr G Hall	Yes	0161 275 5266
Consultant Musculo-skeletal Radiologist	Dr N Winn	Yes	0161 276 8799 (Secretary)
Consultant Musculo-skeletal Radiologist	Dr A Kirwadi	Yes	0161 276 8799 (Secretary)
Consultant Musculo-skeletal Radiologist	Dr R Whitehouse	No	0161 276 8799 (Secretary)
Physiotherapist	Ms M Cumbo	Yes	0161 7010267
Sarcoma CNS	Ms H Murray	Yes	0161 276 6167

RJAH treatment services for STS

There are daily clinics for new/relapsed/follow up sarcoma. There is CNS support for all clinics.

Mr P Cool Monday a.m., Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday p.m.
Miss G Cribb Monday p.m. (when required), Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday a.m.
Dr M Leahy Thursday a.m. (alternate weeks).

Surgical Consultant offer cross cover for annual/professional leave.

There are 4 operating lists a week utilised for sarcoma excision:

All day Tuesday
Tuesday a.m. biopsy list
Thursday p.m. (am if required)
Friday a.m.

Theatre lists are cancelled for Consultant leave but cases are passed between Consultants to ensure timely treatment. Joint operating also occurs for complex cases.

Role	Name	Core Member of MDT ?	Contact Details
Consultant Orthopaedic Oncological Surgeon	Mr P Cool (lead)	Yes	01691 404096
Consultant Orthopaedic Oncological Surgeon	Miss G Cribb	Yes	01691 404096
Consultant Specialist Sarcoma Histopathologist	Dr C Mangham	Yes	01691 404148
Consultant Musculo-skeletal Radiologist	Dr R Lalam	Yes	01691 404189
Consultant Musculo-skeletal Radiologist	Dr P Tyrrell	No	01691 404189
Consultant Musculo-skeletal Radiologist	Dr J Singh	No	01691 404189
Sarcoma CNS	Sr Caroline Pemberton	Yes	01691 404107
Physiotherapist	Kristin Grant	No	01691 404240
Occupational Therapist	Elizabeth Nicholls	Yes	01691 404353

Christie Services for STS

Clinics

The joint Sarcoma Clinic operates at the Christie on Tuesday mornings weeks 2 and 4 and has the following staff:

Role	Name	Core Member of MDT ?	Contact Details
Onco-plastic surgeon	Mr D Mowatt	Yes	0161 446 3368
Onco-plastic surgeon	Miss Victoria Giblin (on mat leave)	No	0161 611 4185
Consultant Clinical Oncologist	Dr J Wylie	Yes	0161 446 8323
Consultant Clinical Oncologist	Dr C Coyle	Yes	0161 446 8323
Physiotherapist	Miss M Combo	Yes	0161 446 3795
Sarcoma CNS	Sister A Buchan	Yes	0161 446 3094

The following groups of patients are seen in this clinic

- Patients with proven STS referred by core members of GMOSS for radical (pre or post-operative) or palliative radiotherapy

- Patients requiring an onco-plastic opinion
- Patients with complex benign soft tissue tumours e.g. fibromatosis
- Patients with non-extremity/truncal sarcoma referred for a sarcoma opinion by outside site specific teams
- Patients on follow up post treatment of STS

There is a parallel medical oncology clinic operating alongside this clinic on every Tuesday morning

Role	Name	Core Member of MDT ?	Contact Details
Consultant Medical Oncologist	Dr M Leahy	Yes	0161 446 8384
Consultant Medical Oncologist	Dr L Horsley	Yes	
Sarcoma Research Nurse	Sister S Welby	No	0161 918 7355
Sarcoma CNS	Sister A Buchan	Yes	0161 446 3094

Post radical treatment

Following any radical treatment within GMOSS patients will be followed up by core members of GMOSS. There will typically be alternating follow up between the surgical and non-surgical treatment centre (e.g. MRI and Christie, or RJAH and Christie). Where surgery has been performed by an associate member of GMOSS MDT the follow up will alternate between that individual and a core member of GMOSS (commonly at Christie).

Suggested follow up for high grade tumours:

Clinical examination and CXR every 3-4 months years 1-2
Clinical examination and CXR every 6 months years 3-5
Clinical examination and CXR every 12 months years 5-10

Suggested follow up for low grade tumours:

Clinical examination and CXR every 6 months years 1-2
Clinical examination and CXR every 12 months years 3-10

Patients with either confirmed or suspected recurrence are referred back to the core member of GMOSS who treated the patient.

Post palliative radiotherapy or chemotherapy

Follow up will typically take place within GMOSS until such time that patient is referred to palliative services

3.8 Patient Pathways for Assessment Treatment and Follow Up for Bone Sarcoma (Measure 14-1C-116C)

All patients aged $\geq$ 16 years old with proven bone sarcoma will have their care managed by GMOSS MDT but all surgery will be performed at RJAH Hospital. It is acknowledged that young people with bone sarcomas have distinct needs that require a separate care approach. Therefore, any patient aged 16-24 years will have their diagnosis and treatment plan determined by the GMOSS MDT meeting, but this plan will then be discussed and agreed with the teenage and young adult (TYA)

MDT based at Christie. An overriding principle is that all patients aged 16-18 years inclusive should be referred to the TYA Principal Treatment Centre at Christie for treatment whereas all patients aged 19-24 years inclusive should at least be offered referral to TYA Principal Treatment Centre at Christie for their treatment.

Patients with palliative needs will be referred to local palliative care services either within specific hospitals or within the community.

Patients with a proven or highly suspected bone sarcoma will be discussed at the weekly GMOSS MDT prior to initial active treatment, following surgical resection and at the time of future local or first distant relapse in order to agree the most appropriate multi-modality treatment. All relevant histology and radiology is reviewed prior to the meeting by core GMOSS members. The magnitude of any surgical resection is discussed. The utilisation, timing and location of additional chemotherapy (palliative or radical) is agreed. In rare instances the role of radiotherapy is discussed. The group agree if there are any appropriate clinic trials available for the individual patient. The agreed treatment plan is minuted at the time of the meeting and a core member assigned to action this plan. A key worker is also allocated to the patient.

Special arrangements are now in place for patients presenting with primary Ewing's sarcomas of bone. Following an initial local MDT plan agreed by GMOSS the case will then be discussed at the National Ewing's MDT where a final management plan will be agreed. Individual clinicians involved in the care of such patients are expected to participate in this discussion.

All chemotherapy and radiotherapy is delivered by the designated Centres as detailed earlier (11-1A-105-6l).

It has been agreed that national 'UK Guidelines for the Management of Bone Sarcomas' (2010) be adopted. These can be viewed on the Manchester Cancer website www.manchestercancer.org.

RJAH treatment services for Bone Sarcoma

There are daily clinics for new/relapsed/follow up sarcoma. There is CNS support for all clinics.

Mr P Cool	Monday a.m., Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday p.m.
Miss G Cribb	Monday p.m. (when required), Tuesday a.m. (alternate weeks), Wednesday a.m. (alternate weeks), Friday a.m.
Dr M Leahy	Thursday a.m. (alternate weeks).

Surgical Consultant offer cross cover for annual/professional leave.

There are 4 operating lists a week utilised for sarcoma excision.

All day Tuesday
Tuesday a.m. biopsy list
Thursday p.m. (a.m. if required)
Friday a.m.

Theatre lists are cancelled for Consultant leave but cases are passed between Consultants to ensure timely treatment. Joint operating also occurs for complex cases.

Role	Name	Core Member of MDT ?	Contact Details
Consultant Orthopaedic Oncological Surgeon	Mr P Cool (lead)	Yes	01691 404096
Consultant Orthopaedic Oncological Surgeon	Miss G Cribb	Yes	01691 404096
Consultant Specialist Sarcoma Histopathologist	Dr C Mangham	Yes	01691 404148
Consultant Musculo-skeletal Radiologist	Dr R Lalam	Yes	01691 404189
Consultant Musculo-skeletal Radiologist	Dr P Tyrrell	No	01691 404189
Consultant Musculo-skeletal Radiologist	Dr J Singh	No	01691 404189
Sarcoma CNS	Sr Caroline Pemberton	Yes	01691 404107
Physiotherapist	Kristin Grant	No	01691 404240
Occupational Therapist	Elizabeth Nicholls	Yes	01691 404353

Post radical treatment

Following radical treatment for bone sarcoma patients are typically followed up at RJAH Hospital.

Suggested follow up:
Clinical examination and CXR every 3-4 months years 1-2
Clinical examination and CXR every 6 months years 3-5
Clinical examination and CXR every 12 months years 5-10

Radiographs of the affected part are also performed at every consultation and patients with prostheses have lifelong follow up.

Patients with either confirmed or suspected recurrence are referred back to the core member of GMOSS based at RJAH Hospital.

Post palliative radiotherapy or chemotherapy

Follow up will typically take place within GMOSS (typically RJAH or Christie) until such time that patient is referred to palliative services

Patients with either confirmed or suspected recurrence are referred directly back to RJAH Hospital

3.9 Patient Shared Care Pathways for Soft Tissue Sarcomas Presenting to Site Specialised MDTs (Measure 14-1C-117l)

These shared care pathways apply to GMCCN. The majority of the GMCN population is served by the Birmingham Sarcoma Service which is jointly delivered by University Hospitals Birmingham Foundation Trust and Royal Orthopaedic Hospital Foundation Trust in Birmingham. However, a proportion of the Shropshire PCT Population and the Powys population are served by GMOSS for limb/trunk soft tissue sarcoma and bone sarcomas, with treatment centres in Oswestry and Manchester. Sarcomas arising at other anatomical sites are not the responsibility of GMOSS and separate pathways are being developed by GMCN into the Birmingham Sarcoma Service.

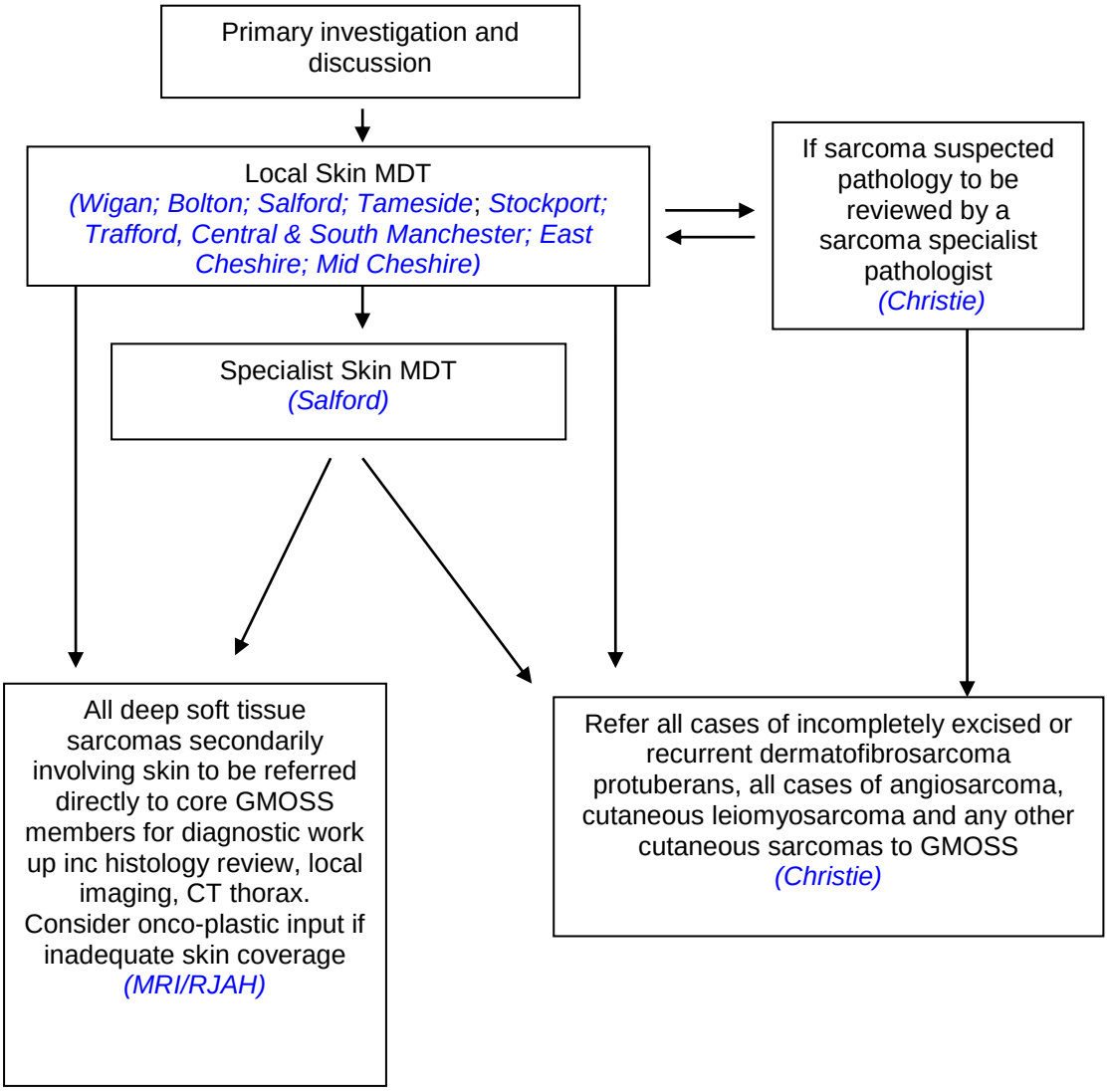
The following table provides a summary of agreements for the shared care pathways, all will be reviewed by Manchester Cancer Pathway Directors in the coming 12 months:

Tumour Site	Date Agreed by NSSG	Date agreed by SAG	Date for review
Skin	18 June 2012	20 June 2012	June 2014
Upper GI	21 Oct 2011	7 Dec 2011	October 2013
Head & Neck	14 June 2012	20 June 2012	June 2014
Urological (including retroperitoneal)	24 April 2012	20 June 2012	June 2014
Breast	25 Jan 2012	21 Mar 2012	Jan 2014
Lung	19 July 2012	20 June 2012	July 2014
Gynaecological	16 Mar 2012	21 Mar 2012	Mar 2014

AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF CUTANEOUS SARCOMAS

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK SKIN CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

Title	Name	Site	Contact
Consultant Onco-plastic Surgeon	Mr D Mowatt	Christie	0161 446 3368
Consultant Onco-plastic Surgeon	Miss V Giblin	Christie	0161 446 3368
Consultant Clinical Oncologists	Dr J Wylie/ Dr C Coyle	Christie	0161 446 8323
Consultant Medical Oncologist	Dr M Leahy	Christie	0161 446 8384
Consultant Medical Oncologist	Dr L Horsley	Christie	



NB: Patients from Wigan Local Skin MDT are referred to the Specialist Skin MDT and plastic surgeons at Whiston Hospital, St Helens & Knowsley NHS Trust, part of the Mersey & Cheshire Cancer Network. GMCCN Patients may be referred to Mr Telfer, Mr Ghura, or Mr Madan , Consultant Mohs Surgeons based at Salford.

Summary of key recommendations:

- All suspected cutaneous sarcomas should be referred to Drs Shenjere and Nonaka at Christie for formal pathology review (EQA registered specialist sarcoma pathologist)
- Following review a report will be returned to the referring clinician with a suggestion that confirmed sarcomas should be referred to a core member of GMOSS at Christie to consider further treatment (Dr J Wylie, Consultant Clinical Oncologist or Mr Mowatt, Consultant Plastic Surgeon)

<u>Preferred Contact</u>

Donna Crouch (Secretary)

Donna. Crouch@christie.nhs.uk. Tel. 0161 446 8323, Fax 1061 446 3084

Alternative Contact

Jamie (MDT co-ordinator)

Rosanne.Tunstall@christie.nhs.uk.Tel. 0161 918 7272, Fax 0161 918 7273

- Core GMOSS members will arrange for review of patient at joint sarcoma clinic at Christie (alternate Tuesday mornings) and formal review at GMOSS MDT (Wednesday afternoons)
- In the majority of those cases needing further treatment this will be delivered by core GMOSS members
- Long term follow up will generally be within joint sarcoma clinic as per agreed guidelines

Greater Midlands Cancer Network
Skin Cancer NSSG Arrangements for Sarcoma

Superficial e.g. Dermatofibrosarcoma Protuberans (DFSP) (excludes AFX)

These may be discussed at and managed by the LSMDT; but may be referred onto either of the two Supra Network Sarcoma MDTs which support this Network – Royal Orthopaedic Hospital Sarcoma MDT (ROHSMDT) or Greater Manchester and Oswestry Sarcoma Service (GMOSS).

The Network Skin MDTs will notify all cases of recurrence to either of the two Supra Network Sarcoma MDTs.

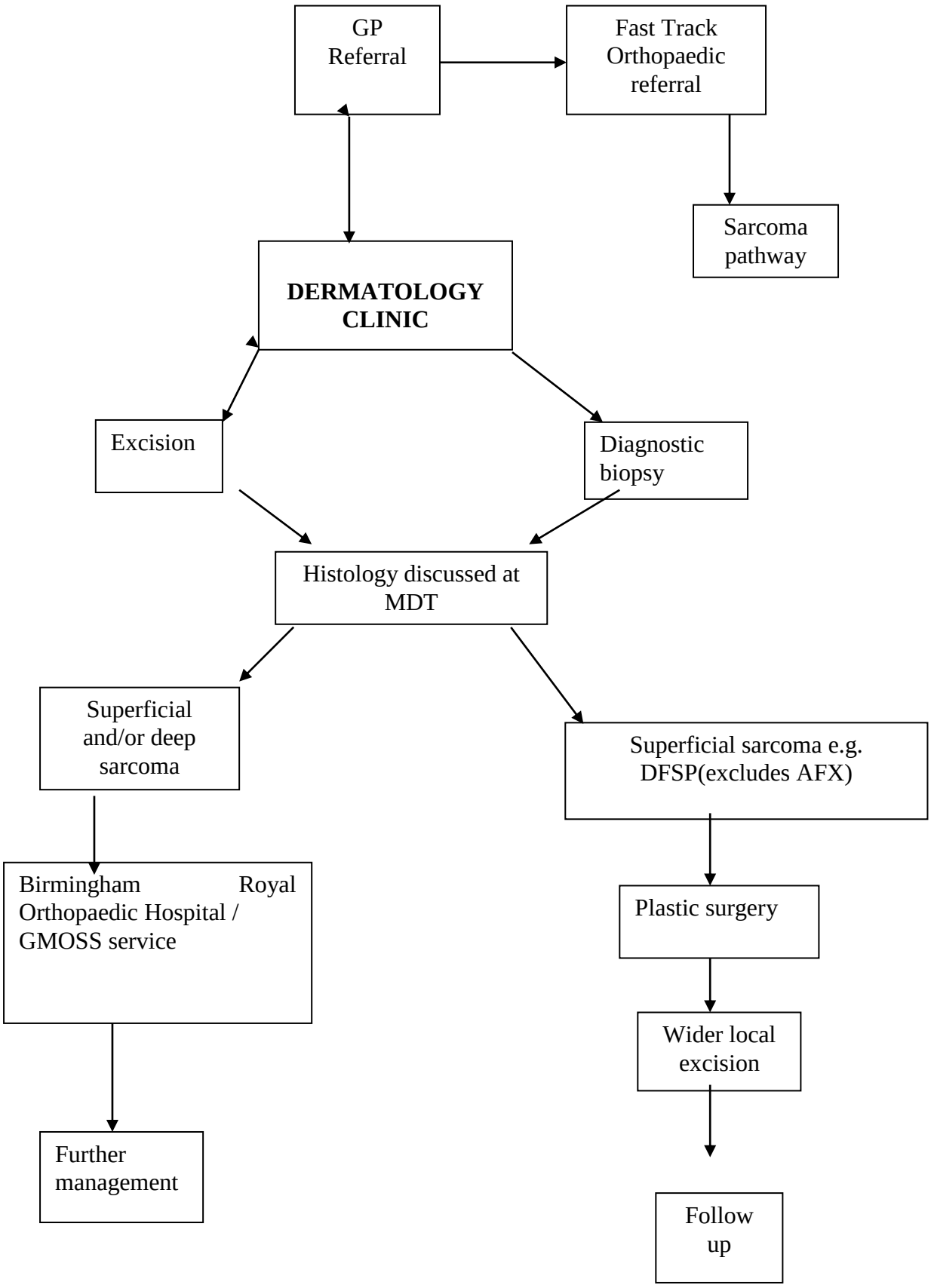
Deep

Deep seated lesions are occasionally picked up by the local Skin MDT. In all cases these would be referred onto ROHSMDT or GMOSS.

Angiosarcoma

The Network Skin MDTs will notify all cases of angiosarcoma, to either of the two Supra Network Sarcoma MDTs.

Skin Sarcoma Pathway



AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF GIST

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK UGI CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

Team

Role	Name	Site	Contact
Hepatobiliary Surgical Lead	Mr D Sherlock	NMGH	0161 624 0420
Upper GI Surgical Lead	Mr I Welch	Wythenshawe	0161 998 7070
Lead Medical Oncologist	Dr M Leahy	Christie	0161 446 8384
Consultant Histopathologist	Dr P Shenjere	Christie	0161 446 3370
Consultant Histopathologist	Dr Nonaka	Christie	0161 446 3370
Lead Consultant Radiologist	Dr B Taylor	Christie	0161 446 8246

Background

In the UK, patients with GIST are either referred centrally to a single network GI sMDT or a single network sarcoma sMDT. For the Greater Manchester and Cheshire Cancer Network, these patients are referred to the Sarcoma MDT.

Contact details:
Dr Michael Leahy
Consultant Medical Oncologist
Christie Hospital
Manchester M20 4BX
T: 0161 446 8384
F: 0161 446 3092
E: michael.leahy@christie.nhs.uk

Principles

Some of these tumours may be diagnosed only on resection pathology however, increasingly pre-operative diagnosis is made either on biopsy (where deep biopsy has been performed e.g. using EUS) or because of increasing familiarity with the radiological and endoscopic appearances of these tumours.

The principles on which this guideline is based are:

1. The local surgical team will remain responsible for the diagnostic phase of the patient's pathway.
2. First definitive surgical management (esp. for the majority of patients with GISTs located in the stomach) should be managed by the relevant GI MDTs e.g the OG sMDT
3. Patients with very low risk tumours can be spared the anxiety of referral to the cancer centre but can be offered referral if they wish
4. Tertiary referral to the sarcoma sMDT will be for:
    a. Pathology review
    b. Special pathological assessment (IHC and mutation analysis)
    c. Advice on pre-operative therapy where relevant
    d. Confirmation of post-operative risk assignment
    e. Assessment for adjuvant therapy
    f. Delivery of adjuvant therapy if appropriate
    g. Advice on follow-up programme
    h. Optionally to see patients for post-surgical follow-up

i. Management of medical therapy for metastatic disease
j. Assessment for secondary surgical intervention

Clinical Groups

Operable non-metastatic Gastric GIST

A proportion of patients may present acutely and require emergency surgery. These patients should be referred to the relevant OG sMDT post-operatively for review and referral as below.
The rest will have a pre-operative diagnosis of GIST and will be prepared for elective resection. Straightforward cases may be suitable for resection by the local team but all cases should be discussed with one of the OG sMDTs prior to surgery as soon as possible and certainly within 2 weeks of a diagnostic CT or endoscopy. Early communication with the sarcoma team at Christie is strongly encouraged for patients who may be assigned to the high risk group. If possible, communication should come pre-operatively so that rapid post-operative assessment can be arranged.

All cases with locally advanced but still operable primary gastric tumours should be referred to the sarcoma team pre-operatively unless an emergency operation is required.

All cases (whether resected at emergency laparotomy or at elective surgery) should also be brought through the relevant OG sMDT post-operatively. This should ideally be when the pathology report is complete but irrespective of the status of the pathology report, within 3 weeks of surgery.

All patients should be offered tertiary referral to the sarcoma team at Christie and patients known (or suspected) to have intermediate or high risk of relapse should be referred and should be advised to attend for assessment for post-operative adjuvant therapy.
Tertiary referral of patients with confirmed completely resected very low risk tumours is optional.
Patients should not be told that they will definitely be given adjuvant therapy as this will depend on a full assessment by oncology and may be dependent on obtaining funding.

Who does not need to be referred?

Patients with very low risk tumours can be spared the anxiety of referral to Christie and also can be identified for discharge or very light follow-up. This refers to patients with gastric tumours less than 2 cm. These patients are considered “very low risk” irrespective of the mitotic count or mutation status.
Note that patients with gastric tumours between 2 and 5 cm and patients with small (<2cm) tumours at other sites in the GI tract may also be considered very low risk if the mitotic count is less than 5 per 50 HPF. Assessment of mitotic count is known to be one of the characteristics that may change on pathologic second opinion at the centre. In particular, it is recommended that all patients with non-gastric GIST are referred to the sarcoma team irrespective of size or mitotic count.

Follow-up of very low risk GIST

Assuming a proper resection has been performed (note, endoscopic resection is not currently considered adequate), patients with very low risk GIST probably do not warrant the anxiety and burden of routine follow-up. If there is significant reason to suspect that there may be noticeable residual post-operative CT changes then it is advised that a CT scan is performed at such time that acute changes of surgery have resolved to form a comparator for future scans if required. This should be no sooner than 3 months post op.

Operable non-metastatic Duodenal, Jejunal, Small bowel, Colonic and Rectal GIST

It is increasingly recognised that these patients are at higher risk than gastric GISTs.

Those presenting as emergencies who undergo immediate resection should be reviewed at the appropriate GI sMDT post-operatively.
Those presenting less acutely where elective surgery is planned should be reviewed at the GI sMDT pre-operatively to ensure optimal planning of resection. Some patients may be suitable for surgical resection by their local team if the tumour appears operable with a simple procedure.
All cases should be reviewed post-operatively at the GI sMDT, ideally when the pathology report is ready but all cases should have been reviewed within 3 weeks of surgery irrespective of the status of the pathology report.
All cases should be offered tertiary referral to the sarcoma team as well.
These patients should then be referred post-operatively.

All patients with locally advanced tumours should be offered tertiary referral to the sarcoma team for consideration of pre-operative treatment assuming they do not require an emergency resection.

Inoperable or metastatic GIST at any primary site including unknown primary site
All cases should be referred to the sarcoma MDT prior to any surgery (except emergency surgery, of course).

Clinical Notes
Adjuvant therapy with imatinib.
Imatinib is licensed for adjuvant therapy but the data is still not yet fully mature regarding the benefit gained. This is a rapidly changing field.
NICE issued a negative assessment of adjuvant therapy in June 2010 and currently there is no automatic access to general adjuvant use in the NHS.
Locally, in 2011, adjuvant therapy for completely resected GIST at high risk of relapse has been accepted as a nominated indication for application to the Cancer Drugs Fund.
Patients should therefore be referred to Dr Leahy at the sarcoma team at The Christie for assessment and application for treatment if suitable.

Pre-operative therapy with imatinib in resectable patients.
The clinical indications for pre-operative treatment include:

a. large or locally invasive, operable non-metastatic tumours where resection would be require en bloc excision, or sacrifice of sphincter
b. operable but metastatic tumours

Where there is doubt, clinicians are encouraged to refer to the sarcoma MDT for advice.

Watch and wait for small GISTs.
It is increasingly recognised that small sub-mucosal tumours may well be GISTs but have a very low potential for invasion or metastasis. Also, small benign tumours may be clinically indistinguishable from these small GISTs. A conservative policy of watch and wait may be appropriate for some of these patients. Factors that would affect this would include: any available histological specimens, co-morbidity, surgical options for resection and the clinical course of the tumour (change over time and symptoms). Such patients may also be suitable for deep tissue biopsy using EUS to obtain definitive histological diagnosis. Minimally invasive surgery may then be possible to obviate the need for continued surveillance.
In cases of doubt, clinicians are encouraged to refer patients to the sarcoma MDT for advice.

Suggested dataset for referral to sarcoma team
It is very helpful if the following can be sent:

1. Copy of CT scan report
2. Copy of operation note

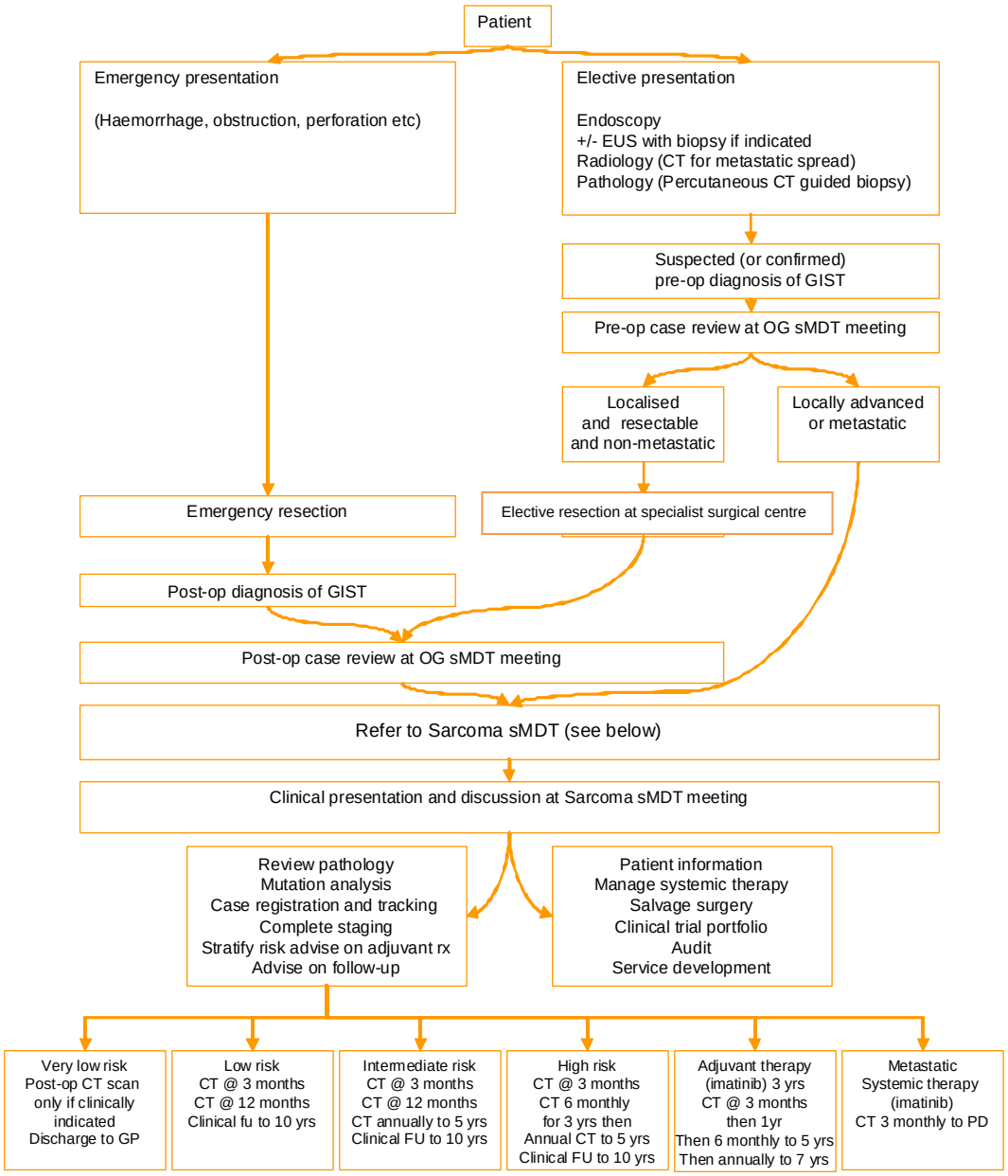
3. Copy of pathology report
4. Copy of MDT meeting note

These documents should contain all the required data points including:

Name of primary surgical consultant, procedure performed, intra-operative or post-operative complications, tumour site, tumour size, whether removed intact / serosal integrity, pathologic assessment of surgical margin and surgical resection status (R0, 1, 2), histological sub-type, immunohistochemistry, mitotic count.

Please state whether you are referring just for registration on the database or if the patient should be seen in clinic

Greater Manchester and Cheshire Cancer Network
Referral Algorithm for Gastric GI Stromal Tumours (GISTs)



Tertiary MDT for GIST at Christie Hospital	**Referral Fax**: 0161 446 3092
Lead Pathologist: Dr Patrick Shenjere Tel: 0161 446 3277	**Upper GI surgical Lead:** Mr Ian Welch Tel: 0161 291 6650
Lead Radiologist: Dr Ben Taylor Tel: 0161 446 8246	**HPB Surgical Lead:** Mr David Sherlock Tel: 0161 720 2612
Lead Oncologist: Dr Mike Leahy Tel: 0161 446 8384	**Lower GI Pelvic and RP Surgical Lead:** Prof Noel Clarke Tel: 0161 446 3364

AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF SARCOMAS ARISING FROM THE HEAD AND NECK REGION

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK HEAD & NECK CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

Team

Role	Name	Site	Contact
H&N MDT co-ordinator	Andrea Harrison	Christie	Tel: 0161 446 3602 Fax: 0161 918 7273 andrea.harrison@christie.nhs.uk
Lead maxillofacial Surgeon	Mr M Patel	UHSM	0161 291 4994
Lead ENT Surgeon	Mr A Birzgalis	UHSM	0161 291 5116
Lead Radiologist	Dr P Hulse	Christie	0161 446 3981
Lead H&N Clinical Oncologist	Dr A Sykes	Christie	0161 446 3354
Lead Sarcoma Clinical Oncologist	Dr J Wylie	Christie	0161 446 8323
Lead Sarcoma Medical Oncologist	Dr M Leahy	Christie	0161 446 8384
Specialist Sarcoma Pathologists	Dr P Shenjere/ Dr D Nonaka	Christie	0161 446 3370
Specialist Sarcoma Pathologists	Dr C Mangham	RJAH	01691 404198

Sarcomas arising in the aero-digestive tract of the head and neck are associated with poorer outcomes than those at other sites. Management is complex and benefits from an experienced MDT. There may be a greater role for neo-adjuvant treatment for sarcomas in this site, requiring close coordination between head and neck surgeons, maxillo-facial surgeons and oncologists. The South Sector H&N MDT takes place at Christie every Tuesday morning 8.30-9.00. All head and neck patients with sarcoma should be discussed at this MDT where core sarcoma members (Dr Leahy and Dr Wylie) attend to provide specialist sarcoma advice. All patients with a new diagnosis of sarcoma must be referred to a Sarcoma Specialist pathologist for definitive pathology review. If this has not already happened this can be provided by Dr P Shenjere/Dr D Nonaka for soft tissue tumours and Dr C Mangham (Oswestry) for bone tumours. Patients can then be jointly assessed in the joint sarcoma clinic at Christie where there is a parallel head and neck clinic staffed by Mr Birzgalis and Mr Patel Tuesday 9-12). The head and neck sarcoma team can therefore provide a surgical/radiotherapy/chemotherapy service for patients with tumours of maxilla, mandible, oral cavity, pharynx and larynx and patients should be referred to this team from adjoining H&N MDT's when sarcoma is suspected or confirmed.

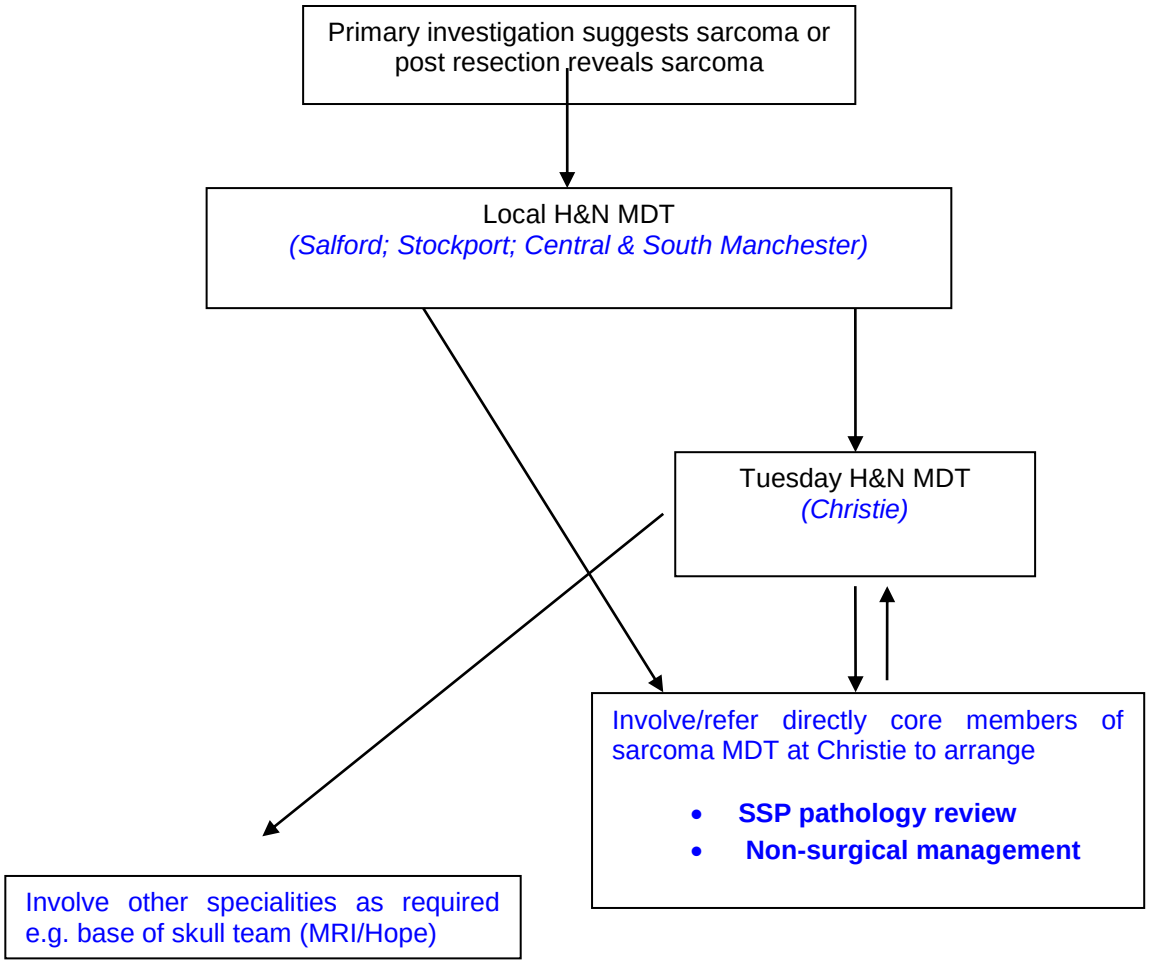
Sarcomas involving skull base should be referred to the Thursday morning CMFT/ Christie H&N MDT (takes place at the Christie, 8am, same co-coordinator as per Tuesday MDT).

The sarcoma H&N MDT co-ordinator (Andrea Harrison) is responsible for informing non-surgical oncology core members of the sarcoma MDT to attend the weekly H&N MDT at Christie (Tuesday 8.30-9.00) when such patients are discussed.

Management will be agreed after joint discussion between the head and neck sarcoma MDT at Christie and the Head and Neck cancer MDT at the referring centre. The place of surgery will be

advised through this joint treatment planning process and in discussion with referring Head and Neck teams.

Any radiotherapy treatment needed is typically planned jointly by Drs Wylie/Choudhury and the relevant head and neck site specific Clinical Oncologist.



AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF UROLOGICAL SARCOMAS (INCLUDING RETROPERITONEAL SARCOMAS)

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK UROLOGY CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

CONTENTS

INTRODUCTION

The published Sarcoma Improving Outcome Guidance document has stipulated that all sarcomas, irrespective of site, have network wide agreed shared care protocols and that all confirmed sarcoma pathology is reviewed by a designated soft tissue sarcoma specialist. These guidelines only apply to sarcomas and not carcino-sarcomas which are generally considered as poorly differentiated carcinomas and should be managed as such.

Soft tissue sarcomas rarely present to urologists, but can present unique diagnostic and treatment challenges. It is estimated that the GMCCN will only see approximately 10 such cases per year. Liposarcomas arising in the para-testicular tissues are probably the commonest presentation. In addition to sarcomas arising in classical urological sites, retroperitoneal sarcoma surgery will often involve urological surgeons. This is particularly true within the GMCCN where the majority of retroperitoneal surgery and more specifically retroperitoneal sarcoma surgery is provided by urological surgeons.

The very rarity of sarcomas can present diagnostic difficulties to pathologists not experienced in this particular area and recognition of this has mandated that all suspected sarcoma pathology should be reviewed by designated sarcoma pathologists within the network who participate in sarcoma EQA schemes. Subsequent treatment requires a multi-modality approach from individuals experienced in treating these rare tumours. Although surgical excision remains the principle modality, the extent of surgical resection, the need for radiotherapy and chemotherapy and the exact sequencing of treatments requires close liaison by the treating team. This management plan is best formulated in a multi-disciplinary meeting as soon as a sarcoma diagnosis is suspected. The purpose of this document is to formalise a shared care pathway for such patients in order to promote optimal clinical care.

The pathway envisages that the majority of patients with sarcomas will initially be discussed at local urology MDTs. Those patients with confirmed or suspected sarcoma should be referred directly to members of the Christie Urology Specialist MDT for imaging review, specialist sarcoma pathology review, additional biopsies and co-ordinated surgical/radiotherapy/chemotherapy workup. For referral contact:

Sandy McAllister
Sarcoma Secretary
Tel: 0161 446 8323
Fax: 0161 446 3084
mcallister.sandra@christie.nhs.uk

David Bowerman
Christie Urology Specialist MDT Co-ordinator
Tel: 0161 446 3602
Fax: 0161 918 7273
Bowerman.david@christie.nhs.uk

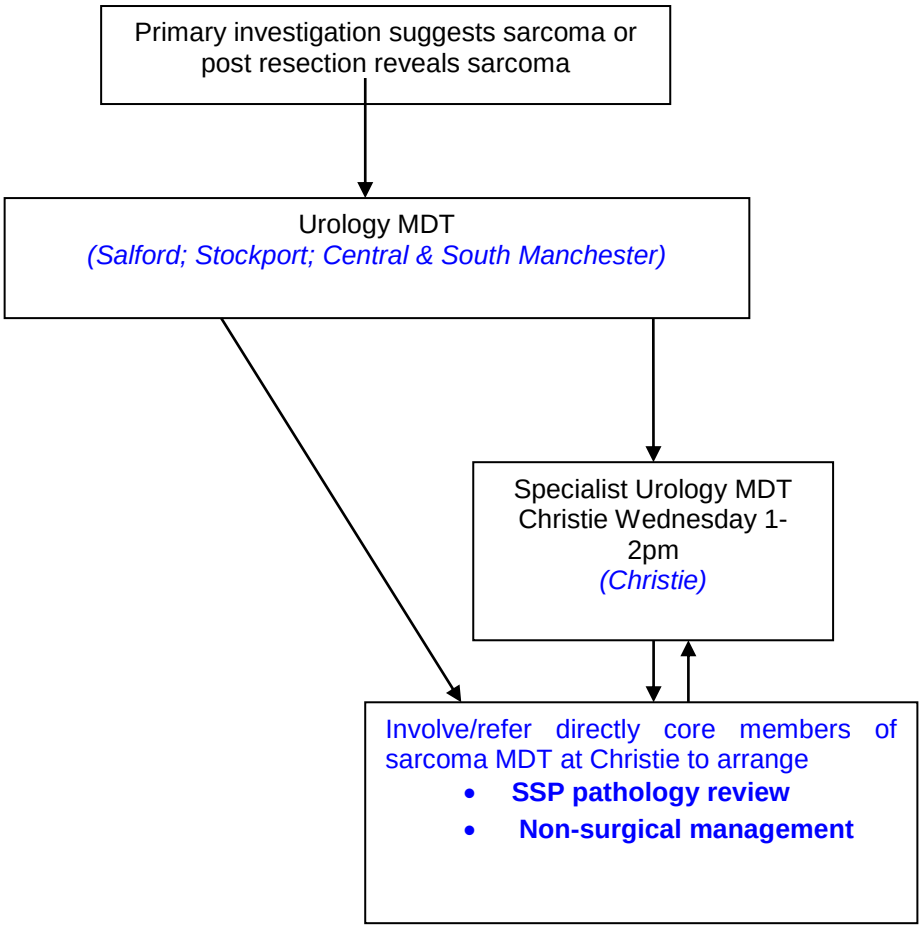
The urology/retroperitoneal sarcoma team is comprised of:

Title	Name	Site	Contact Details
Consultant Urology Surgeon	Prof N Clarke	Christie	0161 446 3364
Consultant Urology Surgeon	Mr V Ramani	Christie	0161 446 3363
Consultant Colo-rectal Surgeon	Mr M Wilson	Christie	0161 446 3366
Consultant Clinical Oncologists	Dr J Wylie / Dr C Coyle	Christie	0161 446 8323
Consultant Medical Oncologist	Dr M Leahy / Dr L Horsley	Christie	0161 446 8384
Consultant Pathologist	Dr J Shanks*	Christie	0161 446 3277
Sarcoma CNS	Sr A Buchan	Christie	0161 446 3094

* Consulting jointly with sarcoma specialist pathologists Drs Nonaka and Shenjere

Urological sarcomas

These cases are so rare that only general management guidelines can be provided and management pathways are often individualised. Certain tumours such as atypical lipomatous tumours are so low grade that simple "shelling out" can provide long term control but high grade tumours may need multi-modality treatment in an effort to obtain local control. For those patients with localised disease surgical excision remains the principle modality with the intent of obtaining negative margins. Unlike carcinomas, sarcomas have a high tendency to local soft tissue extension (often extending some distance from the macroscopic margin) and marginal excisions can result in high local recurrence rates. In addition, sarcomas have high rates of seeding and poorly planned excisions can result in wide fields of contamination and recurrence. Planned surgery within the context of a multi-modality treatment (radiotherapy or chemotherapy) often provides the best chance of obtaining local control. Additional chemotherapy and radiotherapy may be employed pre or post-operative and the exact sequencing relies on close communication by the treating clinicians.
Proposed pathway:



Follow up:

High grade tumours have high rates of distant metastases. Follow up therefore requires attention to both the local site and lung (commonest site of metastases)

Year 1-2 3 monthly with clinical examination* and CXR

Year 2-5 6 monthly with clinical examination* and CXR

Year 5-10 Annual with clinical examination and CXR

Frequency of follow up year 1-2 can be 6 monthly for low grade tumours

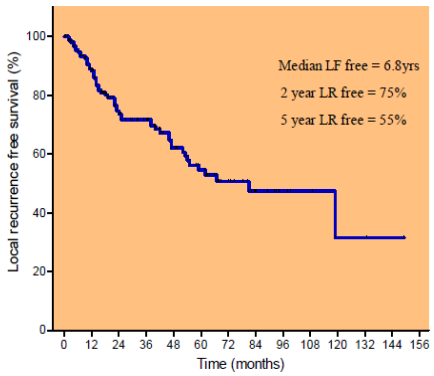
* Annual CT or MRI for inaccessible sites

Recurrence:

Patient diagnosed with possible recurrences should be referred back to the treating team

Retroperitoneal sarcomas

Retroperitoneal sarcomas (RPS) are rare accounting for around 10-15% of all soft tissue sarcomas and are often very large at the time of diagnosis. Surgery remains the mainstay of treatment and when excised with negative margins good cure rates are achievable. However, due to the large bulk and difficult anatomical location involved margins are often encountered and subsequent local recurrence rates are high (~40-80%) and unlike other sarcoma sites, uncontrolled local disease is the cause of death in 75% of sarcoma related deaths.

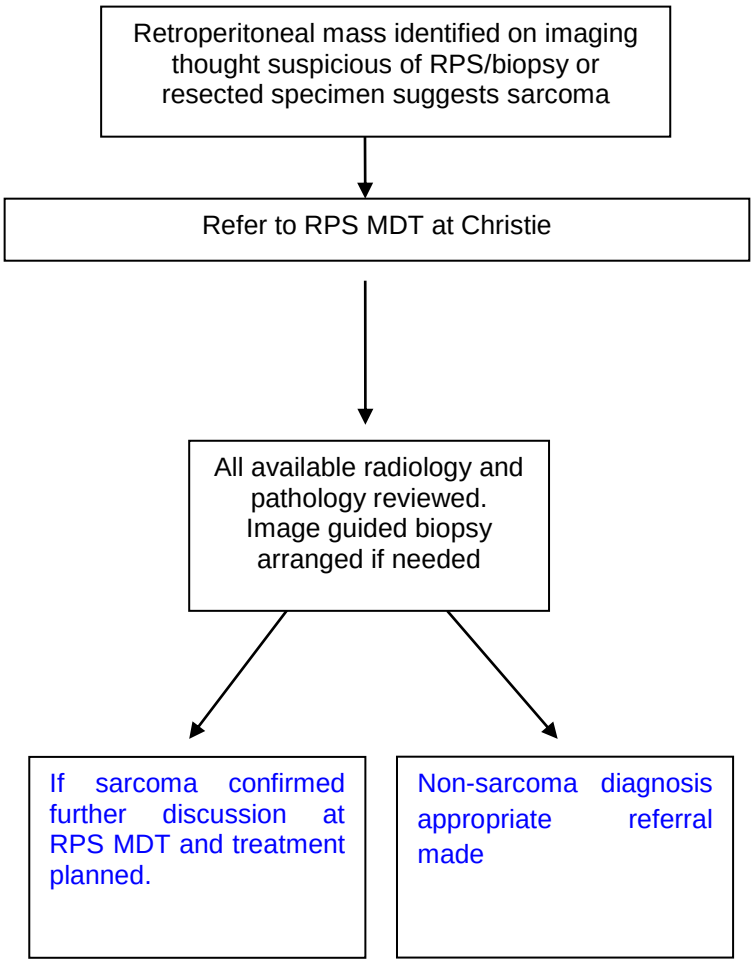


Although post-operative radiotherapy has been shown to improve local control in limb sarcomas it has proved difficult to deliver in RPS due to the large volumes needed to be treated and problems with dose limiting normal structures filling the space vacated by the tumour. Pre-operative radiotherapy is more easily delivered and has been shown to improve local control rates when compared with historical data from single centres. An EORTC sponsored trial (STRASS) has now started randomising between pre-operative radiotherapy and excision versus excision alone and the Christie has been declared a designated surgical site for this.

In GMCCN there are estimated to be about 15-20 operable RS per year. It is proposed that the rarity of these tumours dictates that surgery should be localised in a single centre. The extensive

experience in complex retroperitoneal surgery at Christies would support such surgery being based there. A weekly retroperitoneal MDT already exits where these patients are discussed with core members of the sarcoma MDT and additional treatments such as radiotherapy and chemotherapy are considered. It is envisaged that such a pathway would help further develop surgical expertise in these rare tumours, allow accurate data collection on outcome through already established databases, facilitate accrual into NCRN badged trials and promote multi-modality treatment.

Agreed RPS pathway:



Follow up:

Year 1-10 Baseline CT scan 3 months post op. 6 monthly reviews. Annual CT thorax/abdo/pelvis

Recurrence:

Patient diagnosed with possible recurrences should be referred back to the treating team

AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF SARCOMA OF THE BREAST

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK BREAST CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

CONTENTS

INTRODUCTION

Soft tissue sarcomas may arise within the breast, and can present unique diagnostic and treatment challenges. The commonest type is the radiation-induced angiosarcoma of the breast, which has a particularly poor prognosis often related to late diagnosis. Other types of sarcoma are rarer. Sarcomas of the breast will usually be diagnosed through triple assessment in the diagnostic breast clinics of Breast CSG multidisciplinary teams, but will require input from the Sarcoma MDT for optimal management. In addition, there are other non-epithelial malignancies and conditions that may require Sarcoma MDT input such as malignant phyllodes tumours, fibromatosis, nodular fasciitis and other difficult spindle cell lesions.

The purpose of this document is to provide a shared care pathway for such patients, and guidelines concerning optimal clinical care.

The pathway envisages that the majority of patients with angiosarcoma should be referred centrally as soon as the diagnosis is suspected, and that they should remain within the 31 day and 62 day pathways common to all tertiary referrals within the Breast CSG network. The initial referral for imaging review, breast MR, path review, additional biopsies and surgical workup should be to the UHSM specialist breast unit under the care of Mr L Barr, a member of the Sarcoma MDT; adjuvant therapy decisions will be made by the Sarcoma MDT. **For referral please telephone 0161 291 4430.**

Other types of sarcoma such as leiomyosarcoma, and difficult spindle cell lesions such as fibromatosis, should be referred directly to the Sarcoma MDT at the Christie for pathology review (Dr Patrick Shenjere) and decisions on treatment (Dr J Wylie, Clinical Oncologist). It is envisaged that these patients are unlikely to remain within the 31 day and 62 day pathways as it may take time to make a definitive diagnosis and to construct a multidisciplinary treatment plan. Similarly sarcomas of the chest wall presenting to the Breast Clinic should be referred to the Christie MDT without delay. Specialist plastic surgery input is available at the Christie from Mr D Mowatt. **For referral please telephone 0161 446 8323.**

Benign and borderline Phyllodes Tumours remain under the care of Breast CSG network MDT's.

Malignant Phyllodes Tumours should be referred centrally to the UHSM specialist breast unit for initial pathology review and primary treatment decisions; recommendations for adjuvant therapy will be made by the Sarcoma MDT.

Metaplastic carcinoma with sarcomatoid features remains under the care of Breast CSG network MDT's, and is usually managed in a similar way to triple negative breast cancer. Pathology review if required can be provided by UHSM (Dr M Howe) or Christie (Dr P Shenjere).

2. CLINICAL GUIDELINES

2.1 ANGIOSARCOMA OF THE BREAST

Introduction

These Guidelines advise immediate referral to the UHSM Breast Unit for definitive management once the diagnosis is suspected, in order not to delay the 31 day pathway (see Referral Pathway). **For referral please telephone 0161 291 4430.**

Clinical Presentation

Primary angiosarcoma of the breast is a rare tumour of endovascular origin, and affects younger women with a peak incidence around the ages of 20 to 40. These primary cancers typically present as an ill-defined but rapidly growing mass in the breast. Radiation-induced angiosarcoma (RIA) is seen within the conserved breast of women treated for breast cancer some years before, typically with a latency of 5 to 10 years since treatment. The presentation of RIA is often as a cutaneous or subcutaneous lesion, painless, flat or nodular, bluish or purplish similar to benign angiomas, small hematomas or atypical telangiectasia. Its diagnosis is often delayed by months due to a low index of suspicion, a lack of specific symptoms , follow-up mammograms being normal, and through being hidden within other radiation-induced breast changes. The reported incidence of RIA following radiotherapy to the breast varies from 0.05 to 0.2 %.

Both primary angiosarcoma and RIA are highly infiltrative tumours, with a high risk of local recurrence and metastatic spread. Prognosis depends on whether or not metastatic disease is already present at the time of diagnosis, and then on achieving wide surgical margins well clear of the infiltrative growth edge in all directions. Metastases can occur in lungs, liver, bones, skin, and the other breast. Lymph node metastases are rare, and so sentinel node biopsy is the correct management of the axilla in most cases.

Imaging

Mammography is often normal or shows non-specific features. Ultrasound is the more useful investigation, and may pick up the borders of a diffuse mass. Breast MRI is the best modality to reveal the extent of infiltration. All patients need pre-operative staging by CT thorax and upper abdomen.

Biopsy

A high index of suspicion, careful patient evaluation and adequate biopsy tissue for pathologic diagnosis is mandatory. Cytology is generally misleading and not informative. A standard 14-gauge core needle biopsy may provide sufficient histological material to make a definite diagnosis. If not, a punch skin biopsy of any cutaneous lesion, or needle biopsy using an 11-gauge or 8-gauge vacuum needle technique such as Mammotome, may be required. It should be possible to avoid open surgical biopsy.

Histology and Histology Review

Angiosarcomas may sometimes be reported as low grade or high grade, but please note that this classification does not correlate with clinical behaviour and is best avoided. All angiosarcomas are highly infiltrative with a high risk of local recurrence. Angiosarcomas may be difficult to distinguish from benign vascular proliferations, and thus large biopsies are required for a clear diagnosis, with expert pathology discussion and review. These Guidelines advise that Pathology Review should be provided by UHSM (Dr M Howe) and Christie (Dr P Shenjere) working in collaboration so that both the UHSM Breast MDT and the Sarcoma MDT have input into the definitive treatment plan preoperatively.

Resection Margins

Aggressive surgical resection is the treatment of choice for angiosarcoma, as adjuvant radiotherapy and chemotherapy do not have the same impact on the disease as with epithelial breast cancer. This usually means that mastectomy is indicated. For lesions close to the posterior surface of the breast, the pectoralis major muscle should be removed as the deep margin. For RIA the majority of the irradiated skin may have to be excised as typically these tumours are diagnosed late with extensive local spread. The resulting skin defect will need LD flap or other myocutaneous flap repair. Aim to take 2cm margin around the visible or palpable edge of the tumour. This may involve extending the skin incision and resection beyond the midline on to the opposite chest wall. With a 2cm surgical margin hopefully you will obtain a 1cm histological margin. Anything less will run a high risk of local recurrence. If a margin is involved you may need to consider further resection as adjuvant treatments may not salvage the situation. Some small localised tumours may be suitable for breast-conserving oncoplastic techniques, but the margins of clearance must not be compromised.

Adjuvant Therapy

Adjuvant radiotherapy may appear to be contra-indicated in patients with RIA. Adjuvant systemic therapy makes little difference to survival rates. Nevertheless all angiosarcoma patients should be referred to the Sarcoma MDT for consideration of these treatments. The majority of primary angiosarcoma patients will receive post-op radiotherapy.

2.2 OTHER BREAST SARCOMAS, AND DIFFICULT SPINDLE CELL LESIONS

These cases should be referred directly to the Sarcoma MDT at the Christie to Dr J Wylie (Clinical Oncologist) and Dr Shenjere (Histopathologist). **For referral please telephone 0161 446 8323.**

The key to successful management is careful histological diagnosis. Conditions such as leiomyosarcoma, fibromatosis and nodular fasciitis can occur within the breast, but are more usually seen at other sites. The expertise in histological diagnosis lies within the Sarcoma MDT at the Christie and MRI. It is envisaged that these patients are unlikely to remain within the 31 day and 62 day pathways as it may take time to make a definitive diagnosis and to construct a multidisciplinary treatment plan. Sarcomas of the chest wall may present initially to the Breast Clinic and prompt referral to the Sarcoma MDT is advised.

2.3 PHYLLODES TUMOURS

Clinical Presentation

The clinical features are often similar to those of a fibroadenoma, with which they can be confused. They occur in premenopausal women usually over 30 years of age, and thus older than the typical fibroadenoma. They tend to have a faster growth rate than a fibroadenoma. The diagnosis should be suspected in women over 30 with what appears to be a fibroadenoma clinically, particularly if the ultrasound features are not typical of fibroadenoma. Phyllodes tumours exhibit a spectrum of histological features and natural history that varies from benign, to borderline, to malignant. All have a propensity for local recurrence. Recurrences often show grade deterioration. Thus a recurrent benign or borderline phyllodes may recur as a malignant phyllodes. If inadequately treated, phyllodes can progress to frank sarcomatous lesions with metastases to the lungs.

Imaging

Mammography and Ultrasound reveal a well defined lobulated tumour, similar to a fibroadenoma. The diagnosis may be suspected on the ultrasound appearances, particularly in the older patient.

Biopsy

Cytology is unlikely to distinguish a fibroadenoma from a phyllodes, and so a core needle biopsy is the investigation of choice. Some cases are diagnosed preoperatively as fibroadenoma, and the correct diagnosis made only on surgical excision. A correct preoperative diagnosis is preferable as this will spare the need for repeat surgery.

Histology and Histology Review

The key is to distinguish between benign, borderline and malignant. The 2 extremes of this spectrum are usually straightforward, while borderline lesions can be difficult. The expertise lies within the Breast CSG network MDT's, and central pathology review is also available from UHSM (Dr Miles Howe). In view of their rarity, malignant Phyllodes Tumours should nevertheless be referred following diagnosis to the UHSM specialist breast unit and Sarcoma MDT for decisions on primary treatment and adjuvant therapy (see Referral Pathway). **For referral please telephone 0161 291 4430.**

Resection Margins

All phyllodes tumours, including benign ones, require wide local excision with a clear margin of 1cm in all directions. Even for a benign or borderline phyllodes, a mastectomy may be indicated in order to obtain that wide surgical margin. Many benign lesions can be widely excised using oncoplastic techniques. Adjuvant therapies will not rescue an inadequate margin. A recurrent benign or borderline phyllodes must be treated aggressively, as otherwise local control may later become impossible and progression to frank sarcoma and metastatic disease result. A phyllodes removed as a fibroadenoma should go back to theatre for repeat excision to obtain that wide clear margin. Mastectomy should be considered as the optimal treatment in all malignant phyllodes cases.

Phyllodes tumors rarely spread to axillary lymph nodes, so in most cases it is not necessary to biopsy them.

Adjuvant Therapy

Adjuvant radiotherapy is usually not indicated, as most malignant phyllodes will have had a mastectomy. Adjuvant chemotherapy has no proven role in malignant phyllodes tumours. Locally recurrent phyllodes may benefit from post-op radiotherapy, and metastatic cases should be referred to the Sarcoma MDT for chemotherapy.

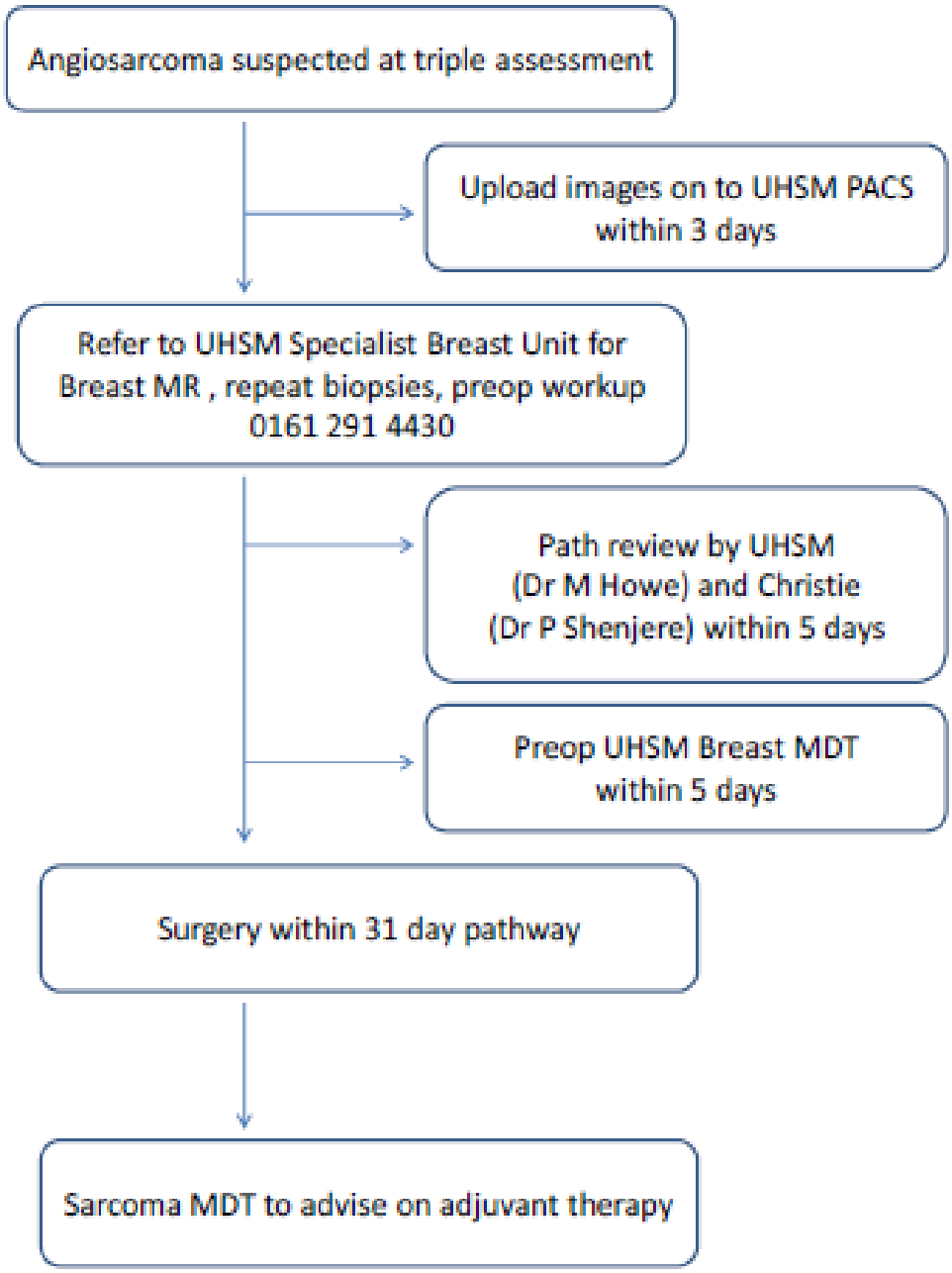
Follow-up

Because of their tendency to local recurrence, all Phyllodes Tumours require close follow-up. Breast examination and ultrasound imaging every 6 months is recommended. Malignant Phyllodes Tumours should in addition have a chest XRay every 3 months in a shared care arrangement with the Sarcoma Clinic at the Christie.

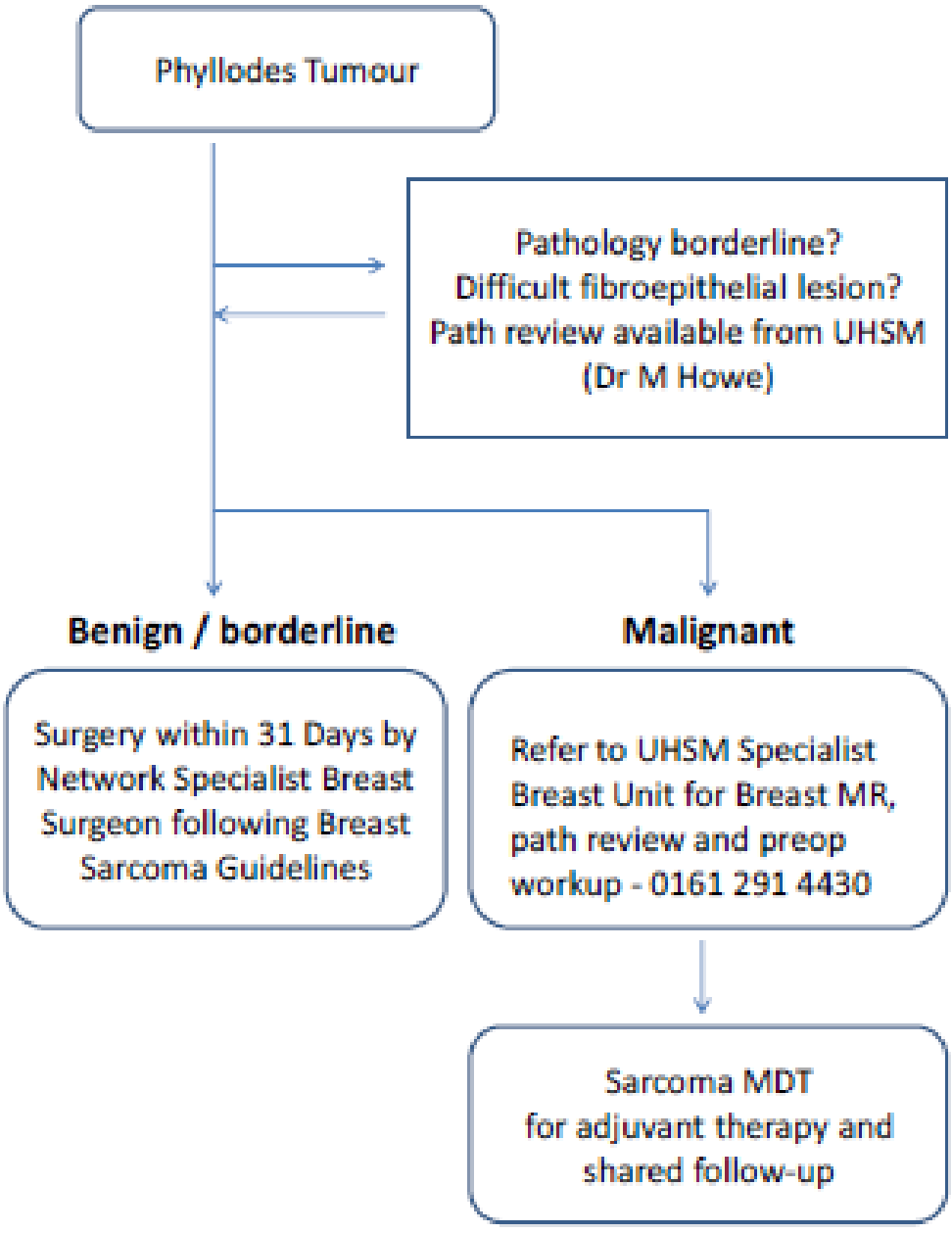
2.4 METAPLASTIC CARCINOMA WITH SARCOMATOID FEATURES.

The majority of these cases are a straightforward diagnosis for a Breast CQA approved Histopathologist. Diagnosis and treatment pathways are similar to the management of triple negative breast cancers, and most patients will remain under the care of the Breast MDT.

Referral Pathway for Angiosarcoma



Referral Pathway for Phyllodes Tumours of Breast

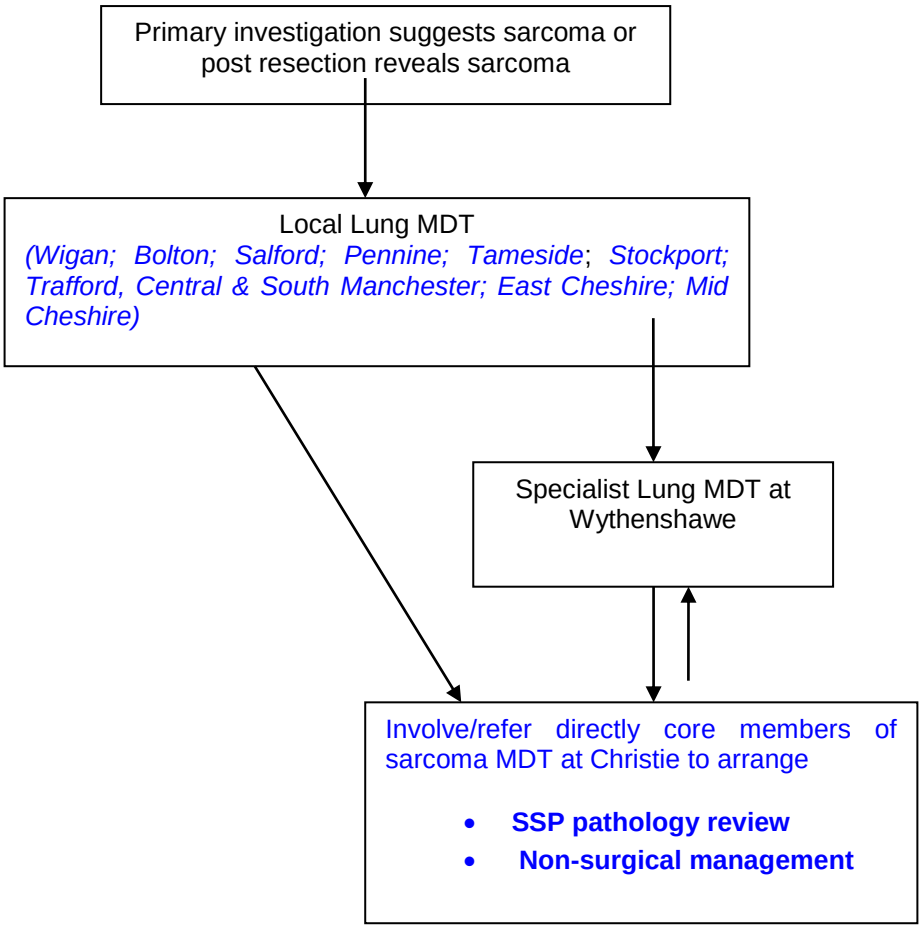


AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF SARCOMAS ARISING FROM THE THORACIC REGION

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK LUNG CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

Role	Name	Site	Contact
Cardio-thoracic surgeon	Mr M Jones	Wythenshawe Hospital	0161 291 2513
Cardio-thoracic surgeon	Mr P Krysiak		0161 291 2512
Pathologist	Dr H Doran		0161 291 2123
Radiologist	Dr M Greaves		0161 291 6237
Lung MDT co-ordinator	Ms P Meredith		0161 291 4275
Lung CNS	Ms H Dutton		0161 291 2547
Lead Sarcoma Clinical Oncologist	Dr J Wylie	Christie	0161 446 8323
Lead Sarcoma Medical Oncologist	Dr M Leahy	Christie	0161 446 8384

These guidelines only apply to new diagnosis intra-thoracic sarcomas and not carcino-sarcomas which are managed through the established lung pathways. Those arising from the chest wall are included in the guidelines for truncal sarcomas (see earlier). Primary intra-thoracic sarcomas are extremely rare and may be diagnosed pre- or post-operatively. In view of their rarity it is sensible that patients with a new diagnosis of proven or suspicious sarcoma should be referred to a single MDT who can liaise with the core sarcoma team at Christie in order to plan the required multi-disciplinary treatment that is often required. This may include pre or post operative radiotherapy or chemotherapy. Generally any surgical resection would take place at Wythenshawe Hospital by the cardiothoracic team. In accordance with the sarcoma IOG document all newly diagnosed or suspected sarcomas should have their pathology reviewed by the sarcoma specialist pathologists at Christie (Dr Shenjere and Nonaka)


Primary investigation suggests sarcoma or post resection reveals sarcoma
Local Lung MDT
(Wigan; Bolton; Salford; Pennine; Tameside; Stockport; Trafford, Central & South Manchester; East Cheshire; Mid Cheshire)
Specialist Lung MDT at Wythenshawe
Involve/refer directly core members of sarcoma MDT at Christie to arrange
SSP pathology review
Non-surgical management

AGREED GUIDELINES and SHARED CARE PATHWAYS FOR THE MANAGEMENT OF GYNAECOLOGICAL SARCOMAS

FROM THE GREATER MANCHESTER & CHESHIRE CANCER NETWORK BREAST CSG AND THE GREATER MANCHESTER & OSWESTRY ADULT SARCOMA MDT

Introduction / Background / Rationale / Objective

Gynaecological sarcomas comprise a number of diverse and rare tumours including specific visceral sarcomas affecting the uterus and ovary and miscellaneous sarcomas of soft tissue that happen to arise within the field of surgical expertise of gynaecological oncologists in the perineum and pelvis. These sarcomas, like other sarcomas, would be ideally managed by teams with sufficient case load to gain specific experience but in practice this may be very difficult to achieve. IOG for Sarcoma specifies that patients with gynae sarcoma should have treatment planning supported by joint input from a sarcoma MDT and a gynae MDT. This referral guideline details how this will be achieved in the Greater Manchester and Cheshire Cancer Network

Remit / Scope / Inclusion / Target Patient Group / Target Staff Group

Patients with uterine leiomyosarcoma, endometrial stromal sarcoma, ovarian sarcomas, perineal, vulval and vaginal sarcomas.

This guideline refers to the Gynae MDTs in GMCCN (North West Sector Gynae MDT hosted at Hope Hospital, North East Sector Gyane MDT hosted at St Mary's Hospital and South Sector Gynae MDT hosted at Wythenshawe Hospital)

Furthermore the Sarcoma service in Manchester acts as a specialist supra-regional MDT and receives referrals from LSCCN and some referrals from the Merseyside and Cheshire Cancer Network and the GMCN

Patient pathway at presentation

Patients with gynae sarcomas are likely to present with symptoms and signs indistinguishable from other benign and malignant pelvic tumours, i.e. pelvic pain, disturbance of micturition, vaginal bleeding etc. They are likely to present to their GP or through their local DGH A&E department and be referred on to local DGH gynae services.

Local DGH gynae teams will refer to one of the network Gynae MDTs if a malignant tumour is suspected.

Pre-operative diagnosis of sarcoma will not always be apparent particularly for ovarian or endometrial tumours. Sometimes the radiological appearance may suggest sarcoma. Pre-operative biopsy may be performed in some cases but may be omitted or difficult to obtain in many. Therefore, the practical solution is that

1. initial staging, work-up should be carried out by the receiving Gynae MDT,
2. notification to the Sarcoma MDT should be made as soon as a sarcoma diagnosis is suspected
3. if a sarcoma diagnosis is made or strongly suspected pre-operatively then the Sarcoma MDT should be involved in pre-operative treatment planning
4. where the surgical procedure is a standard gynaecologic operation such as total abdominal hysterectomy or oophorectomy this should be performed by the referring Gynae MDT
5. where the anatomic location or other factors mean that complex pelvic surgery is required, then there should be consideration of referral to the Pelvic Surgical Team at Christie . This will be at the discretion of the associate centre MDT

6. representation by clinicians from the associate centre MDTs is encouraged either in person or via video-conferencing

Staging Guidelines

Where a pre-operative diagnosis of sarcoma is suspected or confirmed it is recommended that pre-operative staging investigations should include:

CT scan of chest abdomen and pelvis

Surgical Guidelines

Where a pre-operative diagnosis of sarcoma is suspected or confirmed it is recommended that the surgical procedure should include the following:

Uterine sarcoma

Total abdominal hysterectomy

Oophorectomy is not necessary for surgical control if disease clinically confined to uterus but may be considered if the patient is post-menopausal or (for palliative control) if there is gross tumour involvement of ovaries

Lymphadenectomy is not necessary for surgical control if the lymph nodes are not clinically enlarged but excision biopsy is recommended where there is lymphadenopathy

Omentectomy is not required for surgical control

Ovarian sarcoma

Unilateral oophorectomy

Contra-lateral ovarian biopsy

Omental biopsy

Hysterectomy is not required for surgical control

Vulval, vaginal, perineal sarcomas

It is strongly recommended that definitive resection is discussed with the Pelvic Surgical Team at Christie (Clinical Lead Noel Clarke) and with the Sarcoma Onco-plastic team prior to surgery (Clinical Lead: Mr David Mowatt)

Post-resection management

Pathology review

Expert pathological review by a recognised sarcoma pathologist is required to comply with IOG.

The role of the pathology team within the Sarcoma MDT will be to provide the expertise to facilitate relevant pathology discussion. It has been agreed by all Specialist MDTs that patients with a suspected sarcoma will undergo joint pathology reporting by STS Specialist pathologists (Drs Shenjere and Nonaka) and the Specialist Gyna MDT pathologist.

Uterine LMS ER/PR status should be performed

ESS CD10 should be performed

Grade should be reported on the basis of mitotic index and morphology (NB Trojani system is not used)

Staging

If a CT scan was not performed pre-operatively, this should be done post-op to complete staging

Communication with Sarcoma MDT

The Sarcoma MDT should be informed of the patients details including: site, morphology, surgeon, hospital, date of surgery stage and Gynae MDT plans regarding adjuvant therapy

Adjuvant therapy

Network guidelines for the selection of patients with gynae sarcoma for adjuvant therapy should be followed.

In summary, patients with:

uterine LMS FIGO stage I completely resected – no adjuvant therapy

uterine LMS FIGO stage II / III / IVA completely resected – adjuvant EBT 45 Gy in 20# + vault boost by brachytherapy

uterine LMS FIGO stage III / IV incomplete resection – not "adjuvant" but treat as above

Follow-up

Post definitive treatment follow-up will follow standard sarcoma follow-up care plan. In summary: clinic visits q3/12 for 2 years then q6/12 until 5 years out, then annually until 10 years. CXR and pelvic exam at each visit. No routine blood tests required.

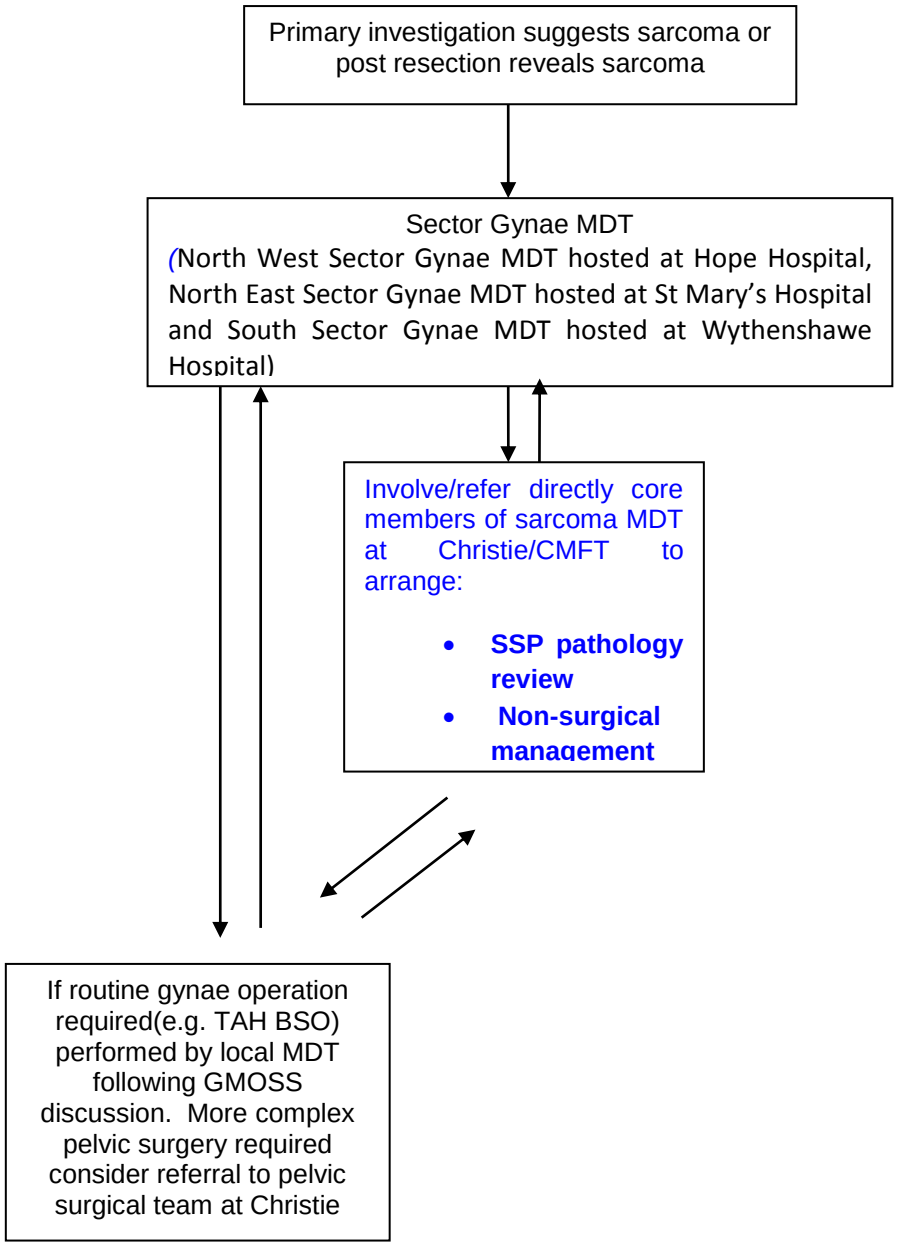
Follow-up should be alternated between the patients original referring hospital and the sarcoma clinical oncology team at Christie.

Relapse / Advanced disease

The patient should be referred to Dr M Leahy for re-staging and to co-ordinate multimodal therapy

Patients will have re-staging CT scan of chest abdomen and pelvis

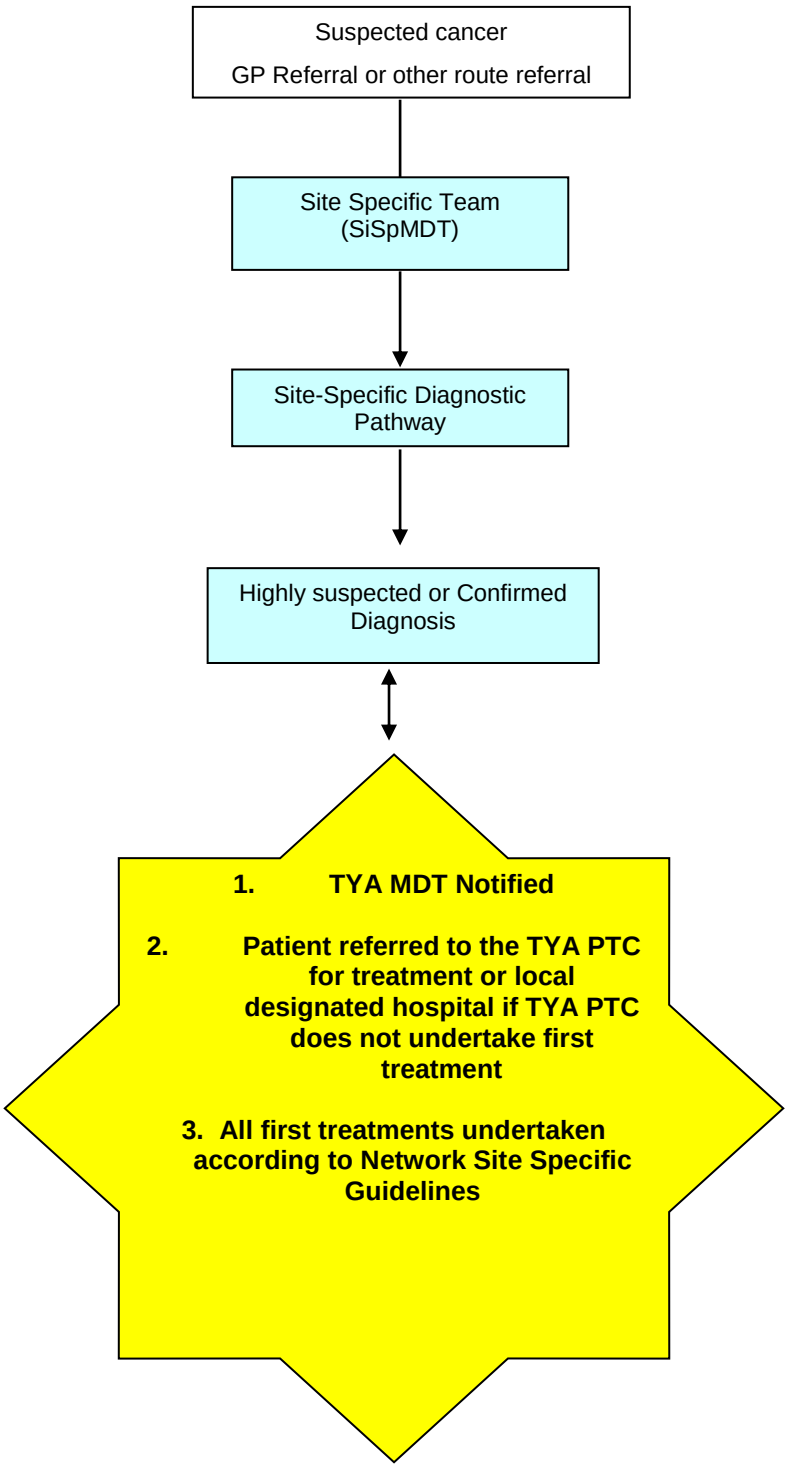
Systemic therapy including hormone therapy (for ESS) will be managed by Dr M Leahy


Primary investigation suggests sarcoma or post resection reveals sarcoma
Sector Gynae MDT
(North West Sector Gynae MDT hosted at Hope Hospital, North East Sector Gynae MDT hosted at St Mary's Hospital and South Sector Gynae MDT hosted at Wythenshawe Hospital)
Involve/refer directly core members of sarcoma MDT at Christie/CMFT to arrange:
SSP pathology review
Non-surgical management
If routine gynae operation required(e.g. TAH BSO) performed by local MDT following GMOSS discussion. More complex pelvic surgery required consider referral to pelvic surgical team at Christie

The TYACN Pathway for Initial Management

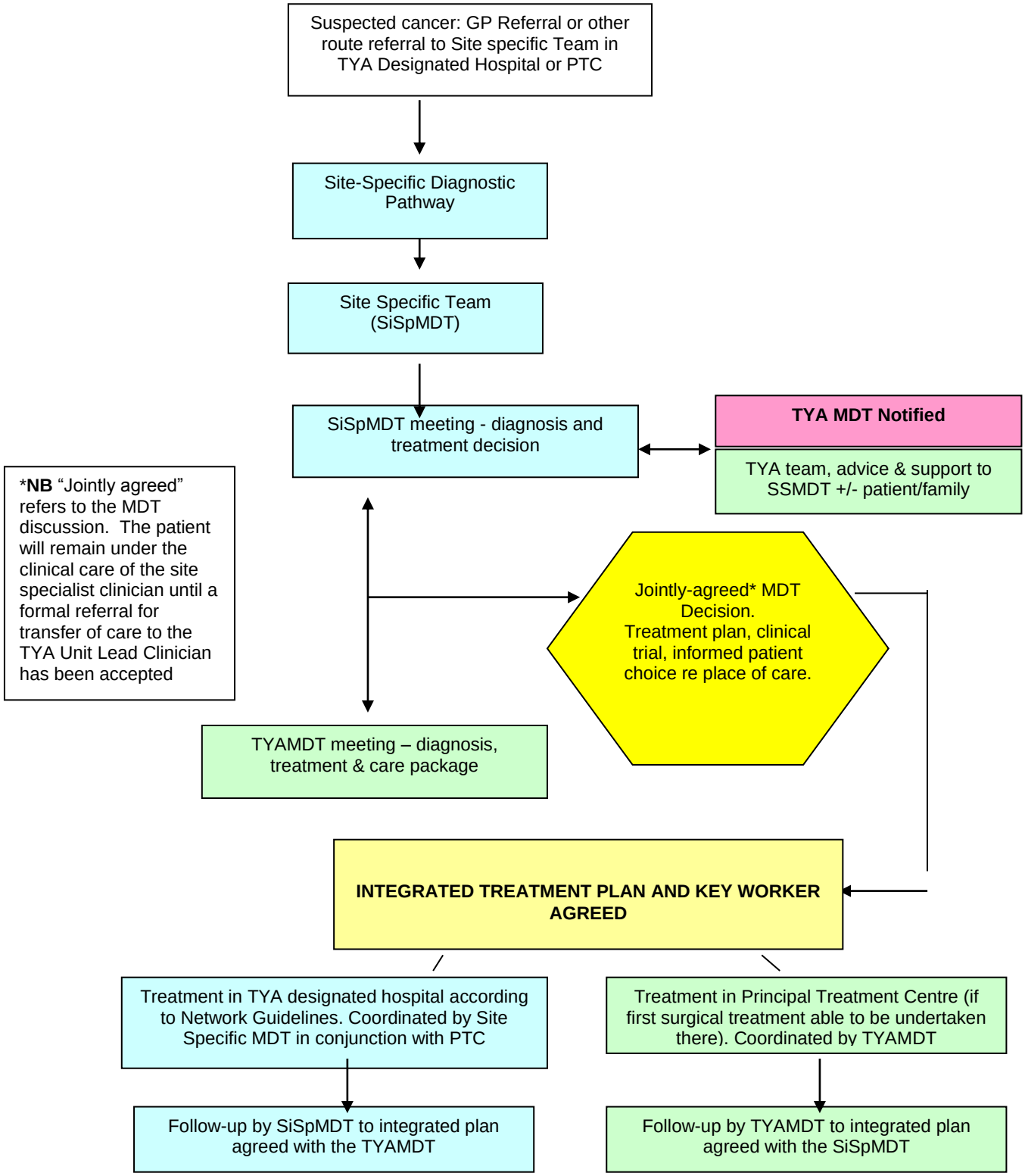
TEENAGE AND YOUNG ADULT PATHWAY 16-18 YEARS INCLUSIVE

(Designated and Non Designated TYA Hospitals)



TEENAGE AND YOUNG ADULT PATHWAY 19-24 YEARS

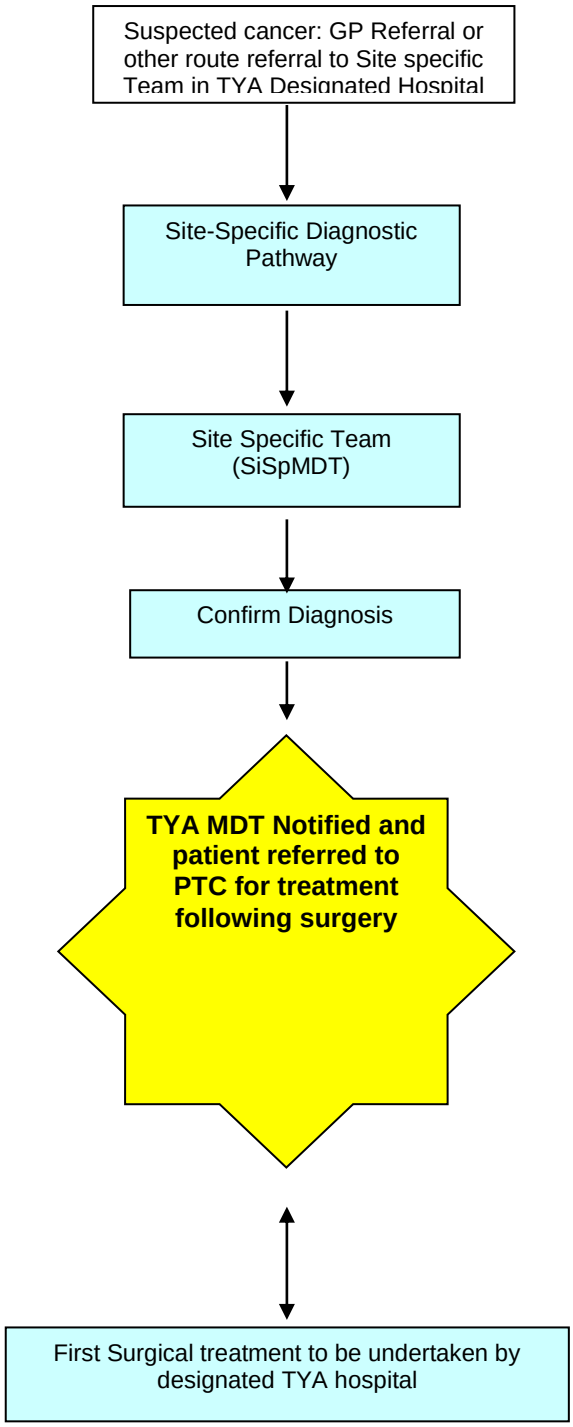
Designated TYA Hospitals



N.B. The agreed Network site specific diagnostic and treatment guidelines for each site specialty (e.g. breast, neuro, skin, urology etc.) should be adhered to.

TEENAGE AND YOUNG ADULT PATHWAY 19-24 YEARS.

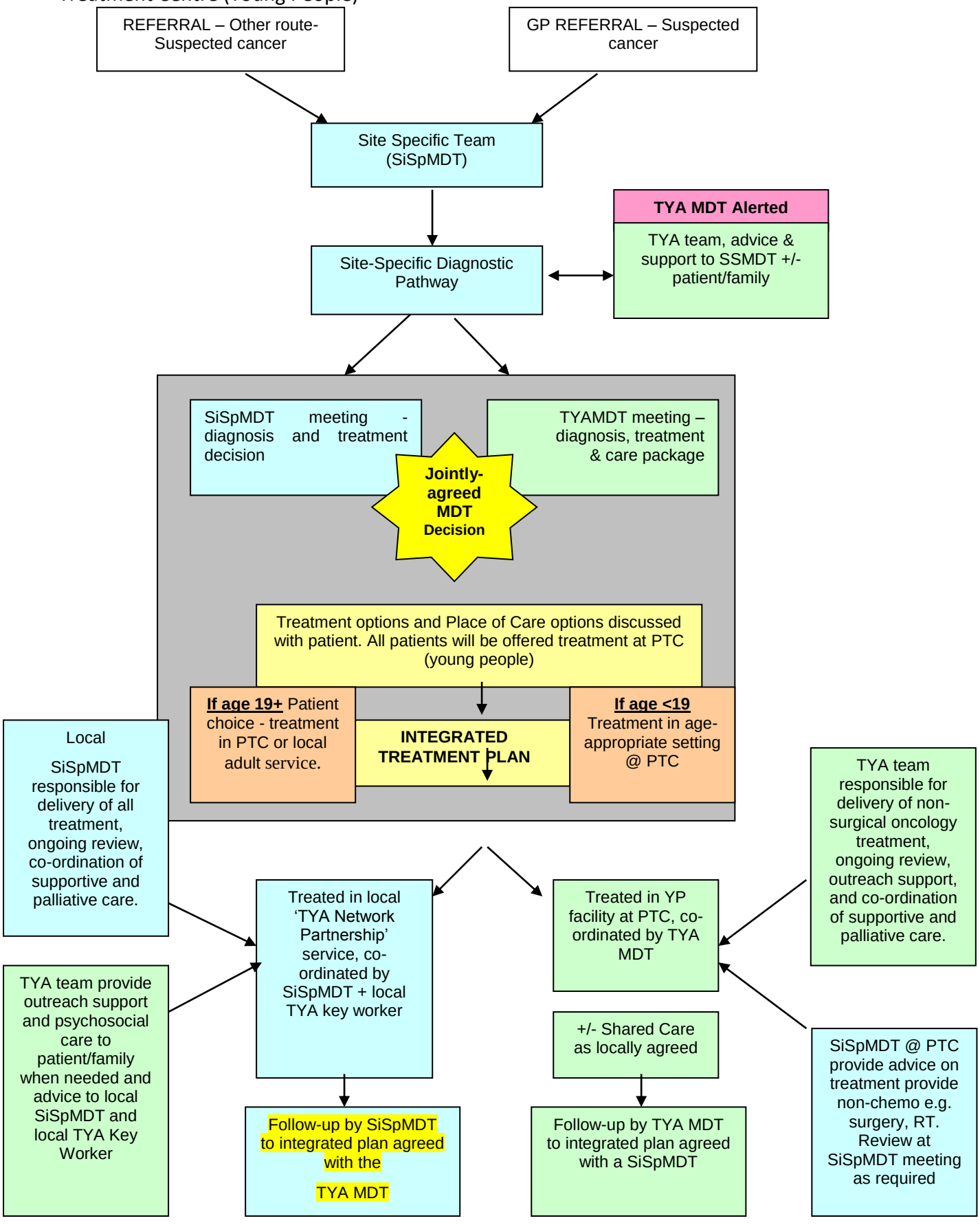
Non Designated TYA Hospitals



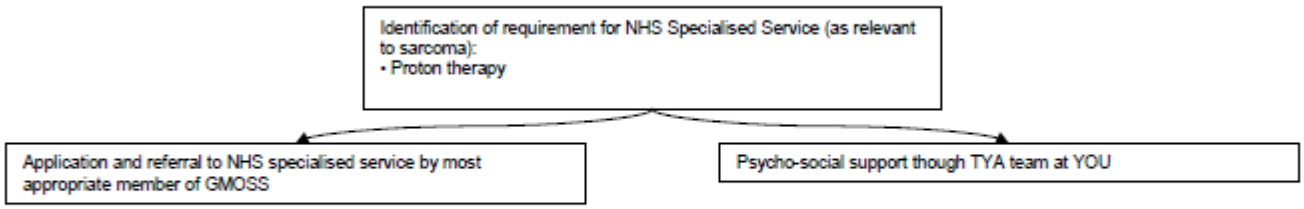
N.B. The agreed Network site specific diagnostic and treatment guidelines for each site specialty (e.g. breast, neuro, skin, urology etc.) should be adhered to.

The TYA Pathway for Follow Up on Completion of First Line Treatment

Patient aged 16-24yrs Referred to a Site-specific MDT that is NOT based at a Principal Treatment Centre (Young People)



TYACN Patient Pathways for Cases Involving NHS Specialised Services



These pathways are currently being developed by the joint GMCCN & LSCCN Teenagers & Young Adults Cancer Network Group. It is anticipated that these pathways will be agreed at the July 2012 meeting.

List of Abbreviations

AGNSS	Advisory Group for National Specialised Services
CE	Chief Executive
CMFT	Central Manchester University Hospitals NHS Foundation Trust
CNS	Clinical Nurse Specialist
CPD	Continuing Professional Development
GMCCN	Greater Manchester & Cheshire Cancer Network
GMOSS	Greater Manchester and Oswestry Sarcoma Service
IOG	Improving Outcomes Guidance
ITC	Intrathecal chemotherapy
MDT	Multidisciplinary team
MDM	Multidisciplinary meeting
NAEDI	National Awareness and Early Diagnosis Initiative
NSCG	National Specialist Commissioning Group
NWSCG	North West Specialised Commissioning Group
PA	Programmed activity
PCT	Primary Care Trust
PTC	Principal Treatment Centre
RJAH	Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust
SSP	Specialist Sarcoma Pathologist
STS	Soft Tissue Sarcoma
RMCH	Royal Manchester Children's Hospital
RPH	Royal Preston Hospital
TYA	Teenage and Young Adult
UHNS	University Hospital of North Staffordshire NHS Foundation Trust
UHSM	University Hospital of South Manchester NHS Foundation Trust