SOUTH THAMES CHILDREN'S CANCER NETWORK

REFERRAL PROTOCOLS AND DIAGNOSIS AND STAGING PROTOCOLS

June 2018

Contents

USEFUL CONTACT DETAILS

Royal Marsden Hospital

-switchboard 0208 642 6011

-paediatric oncology registrar on call: cordless phone 1450 (via switchboard)

-**shared care coordinator 020 8915 6248**

Great Ormond Street Hospital

-switchboard 020 7405 9200

-paediatric oncology registrar on call for solid tumours

-paediatric haematology (non-clotting) registrar on call for leukaemia

South Thames Retrieval Service

-0207 188 5000

Kings College Hospital

-020 3299 9000

University College London Hospital

-020 3456 7890

London Sarcoma Service

-020 8909 5112 (MDT office)

South Thames Children's Cancer Network

Suspected Leukaemia pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer referral | Emergency GP Referral | A&E /other hospital dept

Trust Hospital- Paediatric Unit

DIAGNOSIS/ SUSPICION OF LEUKAEMIA

Clinical assessment: **Assess risk of tumour lysis, sepsis, coagulopathy, mediastinal mass.**

If patient acutely unwell/unstable discuss with South Thames Retrieval Service

Bloods: FBC, blood film, U&Es, Ca, PO4, LFTs, urate, LDH, coagulation, Gp&S, viral serology,
[pre-transfusion TPMT & peripheral blood immunophenotyping-save samples to go to PTC]

Imaging: Chest X-ray.

If mediastinal mass: Do not lie flat, sedate or give GA. *Do not put cannula in right hand. Consider local anaesthetic review. Discuss with RMH whether CT is indicated prior to transfer.*

Infection screen (without LP) and start IV broad-spectrum antibiotics if signs of infection

Commence iv fluids and allopurinol (or rasburicase if indicated) + Transfuse blood products as required.

After initial stabilisation contact:
Paediatric Oncology Registrar on call at RMH (if patient ≥1yr)
Paediatric haematology registrar at GOSH (if patient <1 year)

Consultant paediatrician on call to discuss possible diagnosis with family

If patient affected by any of the following:

Mediastinal mass	**SVC obstruction**
O2 requirement	**Respiratory distress**
coagulopathy	**Active bleeding**
Abnormal CNS signs	**sepsis**
WBC >100x10^9/l	**Tumour lysis syndrome**

Discuss with RMH & STRS re need for retrieval/PICU. Transfer to St George's PICU or Pinkney Ward

All other patients
Patient ≥1yr-Transfer to RMH
Patient <1yr-Transfer to GOSH
Fax/e-mail referral letter including:
- patient demographics & GP details
- history, examination & information shared with family
-investigation results
-Send imaging via IEP

Following transfer:
Diagnostic investigations: Bone marrow, trephine ± Lumbar puncture.
Send peripheral blood immunophenotyping if blasts on blood film.
When diagnosis confirmed: discuss diagnosis, treatment plan and appropriate clinical trial with family.
Consultant letter to POSCU lead, GP & CCN team

RMH Paediatric Leukaemia MDT meeting (weekly Wed) Review all new patient bone marrow morphology, immunophenotyping & cytogenetics. Discuss management plan. Confirm trial registration.

South Thames Children's Cancer Network

Suspected Lymphoma pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer | Emergency GP Referral | A&E or other hospital dept

Trust Hospital- Paediatric Unit

DIAGNOSIS/ SUSPICION OF LYMPHOMA

Clinical assessment: **Assess risk of tumour lysis, sepsis & mediastinal mass.**
If patient acutely unwell/unstable discuss with South Thames Retrieval Service

Bloods: FBC, blood film, U&Es, Ca, PO4, LFTs, urate, LDH, coagulation, Gp&S, viral serology

Imaging: Chest X-ray, USS abdomen and affected peripheral lymph nodes, (+/- CT neck/chest/abdomen/pelvis)
If mediastinal mass: Do not lie flat, sedate or give GA. *Do not put cannula in right hand. Consider local anaesthetic review. Discuss with RMH whether CT is indicated prior to transfer.*

Infection screen (without LP) and start IV antibiotics if signs of infection
Transfuse blood products as required.

After initial stabilisation contact:
Paediatric Oncology Registrar on call at RMH

Consultant paediatrician on call to discuss possible diagnosis with family

If patient affected by any of the following:

Mediastinal mass	**SVC obstruction**
O2 requirement	**Respiratory distress**
Coagulopathy	**Active bleeding**
Abnormal CNS signs	**Sepsis**
Pleural/pericardial effusion/large abdo mass/ascites	**Tumour lysis syndrome**

Discuss with RMH & STRS need for retrieval/PICU.
Transfer to St George's PICU or Pinkney Ward

All other patients
Patient ≥1yr-Transfer to RMH
Patient <1yr-Transfer to GOSH
Fax/e-mail referral letter including:
- patient demographics & GP details
- history, examination & information shared with family
-investigation results
Send imaging via IEP

Following transfer

Complete staging investigations and confirm diagnosis. CT, PET Scan, MRI, Lumbar Puncture, Bone Marrow.

Once confirmed, diagnosis, treatment plan and appropriate clinical trial to be discussed with family.
Consultant letter to POSCU lead, GP & CCN team

RMH Paediatric Tumour Board MDT meeting (weekly Thurs)
Review all new patient imaging, and histology.
Discuss management plan.
Confirm trial registration

South Thames Children's Cancer Network

Suspected Carcinoma and Melanoma pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer referral | Emergency GP Referral | A&E or other hospital dept

Hospital- Paediatric Unit

DIAGNOSIS/ SUSPICION OF CARCINOMA	**DIAGNOSIS/ SUSPICION OF MELANOMA**
Clinical assessment	Clinical assessment
Bloods: FBC, U&E, LFTs, coag +/- tumour markers	Bloods: Discuss with RMH
Discussion with PTC team re. further investigations	Dermatology review
MRI/CT and further evaluation of local site	Skin biopsy (after discussion with PTC team)

After appropriate stabilisation contact Paediatric Oncology Registrar on call at RMH via hospital switchboard.
Consultant Paediatrician to discuss possible diagnosis with family.

If patient unstable may require discussion with South Thames Retrieval Service

Patient acutely unwell

Transfer to St Georges PICU or Pinckney Ward. Discuss with RMH / PICU prior to transfer

All other patients
Patient ≥1yr-Transfer to RMH
Patient <1yr-Transfer to GOSH
Fax/e-mail referral letter including:
-patient demographics & GP details
- history, examination & information shared with family
-investigation results
-Send imaging via IEP

Following transfer
Complete staging investigations and confirm diagnosis.

Carcinoma	**Melanoma**
Appropriate to tumour site (see guidelines)	Follow melanoma staging guidelines. USS draining nodes, CT chest, MRI brain (symptomatic or high risk), PET-CT (selected cases only).

Diagnosis, treatment plan and appropriate clinical trial to be discussed with family.
Consultant letter to POSCU lead, GP & CCN team

Fax RMH solid tumour CNS to inform of referral

RMH MDT Discussion (paediatric + relevant site specific MDT)

Review all new patient imaging, and histology. Discuss management plan.

Confirm trial registration if appropriate.

South Thames Children's Cancer Network

Suspected Germ Cell and Gonadal Tumours pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer referral | Emergency GP Referral | A&E or other hospital dept

Trust Hospital- Paediatric Unit

DIAGNOSIS/SUSPICION OF GERM CELL OR GONADAL TUMOUR

Clinical assessment
FBC, U&ES, Ca, LFTs, urate, LDH,tumour markers (AFP/βHCG; +/- CA125)
Imaging:- Ultrasound, CXR, MRI, CT

Imaging to be linked via IEP

Consultant on call to discuss possible diagnosis with the family and child
Contact appropriate PTC according to child's age

Patient ≥1yr: refer to Royal Marsden
Patient <1yr: refer to GOSH
-Fax/e-mail referral letter including:
-patient demographics & GP details
- history, examination & information shared with family
-investigation results
-Send imaging via IEP

Patient acutely unwell

Discuss with RMH registrar & STRS . Retrieval to PICU at SGH or Pinckney ward

Following transfer

Complete staging investigation, tumour markers and confirm diagnosis and staging. Once confirmed, diagnosis, treatment plan and appropriate clinical trial to be discussed with family.

Consultant letter to POSCU lead, GP & CCN team

Fax RMH solid tumour CNS to inform of referral

RMH paediatric MDT meeting +/- site specific MDT

Review all new patient imaging, and histology. Discuss management plan.

Confirm trial registration.

South Thames Children's Cancer Network

Suspected extra-cranial embryonal tumour pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer referral | Emergency GP Referral | A&E / other hospital dept

Trust Hospital- Paediatric Unit

DIAGNOSIS/SUSPICION OF: neuroblastoma, hepatoblastoma, Wilms' tumour, rhabdomyosarcoma etc

Clinical assessment: Assess for hypertension, sepsis, spinal cord compression, obstructive uropathy, bowel obstruction

If patient acutely unwell/unstable discuss with South Thames Retrieval Service

If acute abdomen (surgical), discuss with paediatric surgical registrar at St Georges

Routine bloods: FBC, U&Es, LFTs, LDH, coag, tumour markers: AFP, B-HCG (for suspected germ cell tumours, liver tumours)

Urine: urinalysis, urine M C& S, catecholamines for suspected neuroblastoma

Imaging: Chest X-ray, USS, CT/ MRI

Treat symptoms according to shared care guidelines with advice from local paediatric consultant and RMH registrar

Patient ≥1yr: refer to Royal Marsden
Patient <1yr: refer to GOSH
-Fax/e-mail referral letter including:
-patient demographics & GP details
- history, examination & information shared with family
-investigation results
-Send imaging via IEP

Liver tumour

Discuss with RMH/GOSH registrar and liver team registrar at Kings

Transfer to Kings liver unit

Patient acutely unwell or surgical abdomen

Transfer to SGH PICU or Pinckney.

Discuss with STRS & PICU prior to transfer

Following transfer

Diagnostic investigations: Biopsies at SGH for all tumours except liver tumours (King's college)

Bilateral Bone marrow aspirates and trephine (suspected neuroblastoma, rhabdomyosarcoma)

Central venous access

Further staging investigations on confirmation of diagnosis

RMH Solid Tumour MDT meeting (weekly Thu)

Review all new patient imaging, histology and staging investigations.

Plan management. Offer clinical trial if appropriate.

South Thames Children's Cancer Network Group

Suspected bone tumour pathway (0 to 24 years)

Birth Surveillance	Child Health	Routine GP Referrals	GP 2 week rule referral	Emergency GP Referral	A&E / other hospital dept

Trust Hospital- Paediatric / Adult Unit

DIAGNOSIS / SUSPICION OF BONE TUMOUR

Clinical assessment

Imaging: X-ray of affected site, USS of affected site, MRI if possible, CXR

Blood tests: FBC, ESR, U&E, CRP, bone profile, vitamin D, blood cultures, viral serology

Patient <1yr

Refer to GOSH

Consultant paediatrician or local orthopaedic surgeon on call to discuss possible diagnosis with family

Refer to London Sarcoma Service (Royal National Orthopaedic Hospital).

http://www.londonsarcoma.org/downloads/hospital_referral_of_suspected_or_diagnosed_bone_or_soft_tissue_sarcoma_to_rnoh.pdf

Refer to Diagnostic Centre (Royal National Orthopaedic Hospital).

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Pre diagnostic Sarcoma MDT discussion (RNOH/UCLH)

Sarcoma MDT held weekly , Friday Morning

MDT report to be sent to referring clinician and GP after MDT.

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Arrival at diagnostic centre (Royal National Orthopaedic Hospital).

DIAGNOSIS. Diagnostic investigations – CT / MRI / US/ biopsy.

STAGING investigations

Initial treatment – in-patient clinical guidelines.

South Thames Children's Cancer Network Group

Suspected Brain or spinal cord tumour pathway (0 to 15 years and 364 days)

Birth Surveillance | Child Health | Routine GP Referrals | GP suspected cancer referral | Emergency GP Referral | A&E / other hospital dept

Trust Hospital- Paediatric Unit

DIAGNOSIS/ SUSPICION OF BRAIN OR SPINAL CORD TUMOUR

Clinical assessment: ABC + GCS + Neurology.

Assess possibility of raised intracranial pressure (ICP) or cord compression

Imaging:- CT brain or MRI brain +/-spine
DO NOT SEDATE IF ANY CONCERNS ABOUT RAISED ICP
(An awake CT + contrast will demonstrate hydrocephalus/haemorrhage/tumour in many cases)

Bloods: FBC, U&Es, AFP, βHCG, Glucose, Coagulation, gp and save

IF RAISED ICP, LOW GCS, CORD COMPRESSION OR OTHERWISE UNSTABLE:

- Urgent review by senior anaesthetist
- Discuss with STRS
- Discuss with neurosurgeons
- Decide whether time-critical transfer indicated

Consultant paediatrician on call to discuss possible diagnosis with family

Acute neurosurgical referral to Regional Paediatric Neurosurgical Unit ie Kings College Hospital or St Georges Hospital

St Georges: call **020 8672 1255** and ask for on call Neurosurgical Registrar. Send imaging electronically.

KCH: Call **020 3299 9000** and ask for on-call Neurosurgical Registrar. Send imaging electronically & add an entry for the patient to the **Neurosurgery Acute Referral system**.

- Enter Kings College Hospital Website
- Follow Acute Neurosurgical Referrals system
- Register for User name and password
- Enter New Request and complete referral information
- Write referral letter and send images via IEP as instructed

Transfer to Regional Paediatric Neurosurgical Unit

Mode of transfer will be based on patient's stability after discussion with neurosurgery and South Thames Retrieval Team if appropriate.

South Thames Paediatric Neuro-oncology MDM (weekly Friday)

All new patients are discussed and management planned

(Emergency investigations and treatment may take place prior to MDM)

South Thames Children's Cancer Network Group

Long term follow-up clinic referral pathway

RMH oncology-FU clinic

Other sec/ tertiary centres

Routine GP Referrals

A&E / other hospital dept.

Send treatment summary with details of chemotherapy, radiotherapy, surgery, adverse events during treatment.

Note bone marrow transplant recipients need to be transferred 1 yr from end of treatment.

Brain tumour patients may need earlier input by endocrinologist.

All others are referred 5 years after end of treatment. Triage to Levels 1-3

Appropriate long term follow-up clinic

Formulate care plan for follow-up.

Brain Tumour – BT clinic seen by multi-disciplinary team (MDT)

Post Bone marrow transplant – BMT follow –up clinic seen by MDT

All other patients seen in oncology late effects FU clinic & by MDT as required

Brighton patients followed at late effects clinic at Brighton

All patients are discussed at the monthly MDT meeting (2nd Tues of the month) at the time of transfer to the oncology follow –up clinic and again at transfer to adult clinic/ or transfer to Brighton.

Prior to transfer to TYA clinic a planned transition should take place over a number of years during which the patient is informed of his/her diagnosis, side effects and follow-up.

A written summary and care plan should also be given to patient and adult follow up physician at UCH

When patient is 16 years old and has been off treatment for ≥5 years he/she should be transferred to the young adult "transition" clinic with a detailed follow-up care plan. At 18-24 yrs patients are discharged for managed self care or referred on to adult clinic at UCH.