Tumour Specific Investigations

Abbreviations

AFP = alpha fetoprotein	**Echo** = echocardiogram	**PET** = positron emission scan
beta-HCG = beta-human chorionic gonadotrophin	**GFR** = glomerular filtration rate	**Pit Fn** = pituitary function
BMA = bone marrow aspirate	**HR** = high risk	**PNET** = primitive neuroectodermaltumour
BMT = bone marrow trephine	**MIBG** = iodine-131-meta-iodobenzylguanidine	**RB-1** = retinoblastoma 1 gene
CSF = cerebrospinal fluid	**mol** = molecular studies	**TPMT** = thiopurine methyltransferase
CT = computerised tomography	**MRI** = magnetic resonance imaging	**USS** = ultrasound scan
	Nuc med = nuclear medicine investigations	**Vwd** = von Willebrand's disease

Tumour Specific Work Up

	ALL	AML	T-HNL	B-NHL	Hodgkins	Neuroblastoma	Wilms'	ST Sarcoma
Other	TPMT mutation					ferritin	Vwd screen	
Imaging[1]	CXR	CXR	CXR	CXR	CXR	CXR	CXR	CXR
CT				chest, abdo, pelvis	chest, abdo	Neck, chest, abdo, pelvis + primary if not MRI	chest, abdo	chest
MRI				brain if CSF +ve	if paraspinal	Primary, unless CT more appropriate		primary
BMA	X*	X*	X	X	+/-	bilateral		bilateral
BMT	X	X	X	X	+/-	bilateral		bilateral
CSF[2]	X	X	X	X	if paraspinal			
Echo[3]	X	X	X	X	X			X
Tissue biopsy[4]			X	X	X	X	X	X
Nuc med			+/- PET	+/- PET	Bone scan if Sxs	Bone, MIBG		Bone
Lung function[3]					X			
Urine						catacholamines (acid pottle)	urinalysis	urinalysis
GFR[3]						X		X
Audiology[3]						X		X

Tumour Specific Work Up

	Ewings	Osteo sarcoma	Hepato blastoma	ExtraCranial Germ Cell (GCT)	Retino blastoma	CrGCT	Medullablast/ PNET	LG Glioma
Other			AFP, b-HCG	AFP, b-HCG	RB1 gene	AFP, b-HCG, Pit Fn**	Pit Fn**	Pit Fn**
Imaging[1]	CXR	CXR	CXR	CXR	USS eyes			
CT	chest	chest	primary and chest	primary and chest				
MRI	primary	primary			brain, if hereditary or HR	brain and spine	brain and spine	brain
BMA	bilateral				if HR			
BMT	bilateral				if HR			
CSF[2]					if HR	AFP, b-HCG, LP and intracranial#		
Echo[3]	X	X	X					
Tissue biopsy[4]	X	X	X	X	X	X	X	X
Nuc med	bone	bone		bone	bone			
Lung function[3]				X				
Urine	urinalysis	urinalysis		urinalysis				urinalysis
GFR[3]	X	X	X	X		X	X	X
Audiology[3]	X	X	X	X		X	X	X

Notes

1. CXR is always PA and lateral if possible.

2. Check coags are normal and platelets are >50 x 109/L before performing lumbar puncture. Leukaemia/lymphoma go to haematology cytospin. Solid tumours go to anatomical pathology cytology. Confirm with radiologist or neurosurgeon that LP is safe before performing if intracranial lesions are present.

3. These investigations may be required on some protocols used to treat these types of cancers. Please refer to *specific* protocols or the treating oncologist, if unsure.

4. Tissue needs to go fresh to anatomical pathology for microscopy, conventional cytogenetics, tissue banking (if consented), and molecular testing if required. Please refer to the appropriate section for tissue biopsy requirements including *molecular pathology* and discuss with treating oncologist.

* microscopy, immunophenotyping, cytogenetics/FISH, molecular haematology, tissue bank.

** pituitary function testing including TFTs, LH, FSH, 8am cortisol, paired urine and serum osmolarity should be checked on all brain tumours near the pituitary bed or stalk.

taken at time of neurosurgery.