Health Operations Committee Briefing Document

PREPARED FOR: Health Operations Committee, February 11, 2011

FOR DECISION

TITLE:Establishing Guidelines for the Prioritization of Magnetic Resonance
Imaging (MRI) Studies and Wait Time Benchmarks

PURPOSE: To obtain Health Operations Committee (HOC) approval for provincial MRI prioritization guidelines and agreement to proceed with implementation.

BACKGROUND:

- On September 14, 2010, HOC endorsed a plan to implement a provincial Diagnostic Imaging Strategy.
- The strategy aligns with the Government of British Columbia's (BC) commitment to achieve greater efficiency in the delivery of quality diagnostic imaging services as outlined in Key Result Area #8.
- A key deliverable of the plan is establishing and implementing prioritization guidelines with recommended maximum wait times for MRI studies.
- Prioritization guidelines will help ensure that patients are assessed for urgency consistently across the Province.
- On October 25, 2010, the Medical Imaging Advisory Committee (MIAC) endorsed the use of draft guidelines established by the BC Radiological Society (BCRS) P4P Working Group (see Appendix A) as a starting point for reaching a consensus on provincial guidelines.
- A consultation was led by Dr. Bruce Forster, Head of the Department of Radiology at the University of BC (UBC) and Director of Medical Imaging at Vancouver General and UBC Hospitals, as well as a representative from the BCRS.
- Radiologists in every jurisdiction of the Province were asked to review and respond to the draft guidelines.
- The result of the consultation was virtually unanimous agreement to the following categories and wait time benchmarks for MRI:

Level 1	Where the imaging is critical for the immediate management of the patient.	Immediately							
	The patient/case should be directly discussed with the Radiologist. This								
	includes Inpatients, Outpatients and Emergency patients.								
Level 2	Lesions/Disease processes in which the diagnosis is known and immediate	2 to 7 days							
	treatment is not necessary, or lesion/disease processes which by history and	-							
	physical findings do not require immediate treatment but do require prompt								
	evaluation. The results of the MRI study will likely alter patient management								
	and provide additional information for surgical or medical management.								
Level 3	Lesions/Disease processes in which the diagnosis is known and immediate	8 to 30 days							
	treatment is not necessary, or lesion/disease processes which by history and	-							
	physical findings do not require immediate treatment and delays in MRI								
	evaluation will not negatively affect treatment outcomes. The results of the								
	MRI study will likely alter patient management and provide additional								
	information for surgical or medical management.								
Level 4	This category includes cases where MRI is required for follow-up on patients	31 to 90 days							
	with stable findings or patients in whom lesions/disease processes may	-							
	undergo slow progression or those for which surgery is not required or								
	limited therapeutic options are available.								

DISCUSSION:

• Wait times are measured from the time of receipt of the requisition to exam completion. The proposed wait time benchmarks reflect minimum clinical requirements and are consistent with wait time benchmarks in other provinces (see table).

Category	egory BC (Proposed) Saskatchewan		Ontario	Alberta (OP only)		
1	1 Immediate to 24 Immediately to 24		Immediate. Less	n/a		
	hours	hours	than 24 hours			
2	2 to 7 days	2 to 7 days	Urgent/Inpatient.	< 7 days		
	-		Within 48 hours			
3	8 to 30 days	8 to 30 days	Semi-urgent. Within	< 30 days		
		-	2-10 days	-		
4	31 to 90 days	31 to 90 days	Non-urgent. Within	< 90 days		
			4 weeks (28 days)			

- If the proposed guidelines are approved, health authorities will need to make any necessary coding and terminology changes to implement the guidelines and begin collecting and reporting wait time data for each of the four urgency categories.
- Based on a sample of MRI exams completed during a one-week period in August 2010, there is large gap between the benchmark for Level 4 and actual performance; about 55% of cases were completed within 90 days (see Appendix B for wait time data).
- MIAC agreed to consider establishing formal wait time targets based on a review of data from a wait time report to be prepared in the spring/summer of 2011 (e.g., X% of Level 4 cases to be completed within 90 days). The methodology, costs and precise timing of the wait time report will be determined based on further discussion between the Ministry and the Provincial Imaging Council.

FINANCIAL IMPLICATIONS:

N/A

DECISIONS REQUIRED:

- Approval of the proposed Guidelines for Prioritization of MRI Studies.
- Approval of the proposed wait time benchmarks for each urgency category.
- Approval to consider formal management targets for wait times, based on a wait time report prepared in spring/summer 2011.

PREVIOUS COUNCIL CONSULTATION / RECOMMENDATIONS

• MIAC endorsed the proposed Guidelines for Prioritization of MRI Studies and wait time benchmarks for each urgency category on January 27, 2011.

APPENDIX A

Guidelines for Prioritization of Magnetic Resonance Imaging (MRI) Studies

BCRS MRI P4P

September 20, 2010

In order to maximize effective utilization of the MRI scanners, all requisitions for MRI examinations will be prioritized by a MRI radiologist. The priority ranking will be assigned according to the history provided on the requisition, so it is extremely important that relevant history be provided. Once this prioritization has been done, the study will be booked in the next available slot for the assigned priority.

Highest priority will be given to examinations, which are likely to directly affect patient management, where MRI is the best available modality to answer the clinical question, and those in which there is urgency in making the diagnosis with MRI prior to instituting therapy.

Lesions, which by history and physical findings are potentially unstable and serious, unless treated immediately will also be given the highest priority. Preoperative and acutely ill patients will be given high priority in situations where MRI will be beneficial in elucidating the diagnosis, if this has not been achieved by other imaging modalities.

Lesions/Disease processes in which the diagnosis is known, and for which immediate treatment is not necessary, or lesions/disease process which by history and physical findings do not require immediate treatment but require prompt evaluation, will be given a second/third level of priority.

Follow up studies on patients with stable findings or lesions in which slow progression might occur, or those for which urgent surgery is not required, will be given a fourth level of priority. The lowest priority will be given to patients with stable disease requiring documentation or for which no treatment is available.

If a physician wishes to know the priority, which a specific request has received, this will be available from MRI booking, as will the approximate time of appointment. If the requesting physician believes the booked time is inappropriate for the patient's condition, he/she should contact the MRI central Booking department and/or a MRI radiologist the referring Medical Imaging Department..

This guideline document is not designed to be all inclusive. The ultimate responsibility for prioritization rests with the attending radiologist after consultation with the referring physician.

NOTE: Guidelines need to be interpreted in context of each individual's needs, as there may additional factors to consider such as risk of CIN with iodinated contrast, NSF in renal failure patients, as well as other factors such as age and pregnancy status.

Level 1 Guidelines for Prioritization of Magnetic Resonance Imaging (MRI) Studies!

Where imaging is critical for the immediate management of the patient. The patient/case should be directly discussed with the Radiologist. This includes Inpatients, Outpatients, and Emergency patients.

Preoperative evaluation of posterior fossa neoplasm, deep supratentorial neoplasm, or exclusion of additional metastatic lesions, if CT does not answer these question Acute hydrocephalus where cause not identified on CT Infection: suspected encephalitis Suspected intracranial venous thrombosis if CTA unavailable or unable to be performed. Preoperative evaluation of spinal cord neoplasm Evaluation of spinal cord injury in acute trauma if no bony abnormality is noted, to assess cord injury or compression Acute cord compression thought to be due to malignancy Acute stroke (CT preferred as initial investigation) Acute osteomyelitis Aortic dissection (CT equivocal) Intracranial hemorrhage assessment of underlying lesion MRA's (where good quality CT or conventional angio not possible) Muscle necrosis or compartment syndrome Infection AIDS with suspected focal lesion Any acute hydrocephalus if MRI needed for Rx planning (e.g. ventriculostomy) Any spinal column or spinal cord injury pre op (e.g. for ligament assessment and to R/O associated disc protrusion Suspected encephalitis or abscess.

Level 2 Guidelines for Prioritization of Magnetic Resonance Imaging (MRI) Studies

Lesions/Disease processes in which the diagnosis is known and immediate treatment is not necessary, or lesions/disease processes which by history and physical findings do not require immediate treatment but do require prompt evaluation. The results of the MRI study will likely alter patient management and provide additional information for surgical or medical management.

Acute joint injury if MRI will determine need for surgery Primary sarcoma of bone or soft tissue Preoperative assessment of possible mediastinal or chest wall invasion by tumor if CT is inconclusive Preoperative assessment of renal vascular invasion by renal cell carcinoma if ultrasound or CT is inconclusive R/O abscess, CT inconclusive or negative R/O occult fractures from ER: Hip / scaphoid Suspected ADEM (ped) Supratentorial neoplasm further delineation of a lesion seen on CT, or exclusion of additional metastatic lesion when surgery not immediately contemplated Infratentorial neoplasm high suspicion of posterior fossa neoplasm with CT negative Skull base and nasopharyngeal tumors for further localization and surgical planning Craniocervical junction lesions strong clinical suspicion or follow up Chronic osteomyelitis Strong suspicion of avascular necrosis if plain film, nuclear medicine or CT inconclusive, or evaluation of opposite hip if surgery contemplated Suspected intracranial vascular lesion NAT (ped) Suspicion of spinal osteomyelitis or discitis Cardiac viability assessment Cardiac mass

Level 3 Guidelines for Prioritization of Magnetic Resonance Imaging (MRI) Studies

Lesions/Disease processes in which the diagnosis is known and immediate treatment is not necessary, or lesions/disease processes which by history and physical findings do not require immediate treatment and delays in MRI evaluation will not negatively affect treatment outcomes. The results of the MRI study will likely alter patient management and provide additional information for surgical or medical management.

Pituitary adenoma suspected
Acoustic neuroma suspected
Multiple sclerosis: head and c spine initial diagnosis
Further assessment of orbital mass lesions where CT is inconclusive or for further assessment
of optic chiasm or intracanalicular portion of optic nerve
Child with suspected metabolic disorder
Congenital brain and spinal disorders where surgical management is contemplated
Spinal cord lesion syrinx, tumor, cyst. Follow up postoperative spinal cord conditions and
assessment of post traumatic spinal cord damage
MRCP
Other acute joint injury still largely restricted to knee, elbow and ankle. Definitely not
"bilateral joints"
Locking joint knee, elbow, ankle
Chronic joint symptoms if MRI will determine need for surgery e.g. query meniscal tear
Complex congenital heart disease
Evaluation of diseases of the great vessels, if further characterization is required after CT, or
where iodinated contrast allergy makes MR the choice for initial evaluation of
abnormalities of the aorta and pulmonary artery
Further characterization of mediastinal and apical masses, apical chest masses where CT
inconclusive
Staging of invasive carcinoma of the bladder and prostate
Pretransplant assessment of hepatic vasculature
Further assessment of focal hepatic lesion to differentiate between hemangioma and other
conditions, if US, CT and NM inconclusive
Further hepatic evaluation for additional focal lesion prior to resection for neoplastic disease
Staging of cancer of the vagina, cervix, vulva and uterus
Metastatic w/u
Ovarian mass evaluation
Fetal abnormality
Monitor chemo/radiation treatment for cancer patients
Cardiac r/o ARVD
AVN any joint or bone – for children
Breast assessment of residual or recurrent disease post lumpectomy

Level 4 Guidelines for Prioritization of Magnetic Resonance Imaging (MRI) Studies

This category includes cases where MRI is required for follow up on patients with stable findings or patients in whom lesions/disease processes may undergo slow progression or those for which surgery is not required or limited therapeutic options are available.

Post traumatic brain and spinal cord assessment (remote injury) Chronic hydrocephalus without underlying mass lesions Assessment of complex congenital brain and spine malformations Chronic joint symptoms where other forms of investigations have been performed and are inconclusive Shoulder should have arthrogram first for rotator cuff tear. For possible labral tears rather CT or MR arthrograms Elbow chronic elbow pain, query loose body CT better if calcified, MR if not Wrist should have x ray, stress views, arthrogram and CT first Hip is not susceptible to internal derangement and generally MRI is not indicate except query labral tear MR arthrogram Knee chronic or bilateral pain, patellofemoral syndrome / chondromalacia Ankle chronic Muscular disorder Muscloskeletal storage disorder (e.g. Gaucher's) Multiple sclerosis follow up Neurodegenerative disorders Dementing conditions Chronic seizure disorder for patients in whom surgery is not planned and CT negative, with no EEG focus Screening of family members with family history of aneurysm Pituitary adenoma for follow up or patients not being considered for surgery Degenerative disc disease with persistent symptoms Postoperative spine with persistent symptoms Follow up for syringomyelia Follow up aortic dissection Temporomandibular joint internal derangement Bone and soft tissue tumors likely to be benign Seizures child with seizures and EEG focus, children awaiting epilepsy surgery, adult onset first focal seizure, postoperative assessment where CT inconclusive for extent of removal or assessment of residual lesion Breast implant evaluation, screening for malignancy in certain high risk groups eg. BRCA1 carrier, and "problem solving" in diagnostic work up Cardiac ARVD

APPENDIX B

August 20	10 MRI	Wait Time	Snapshot
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НА	Facility	Total Cases completed	Total within 90 days	% within 90 days	Avg	Max	Min	10 th pctl	25 th pctl	50 th pctl	75 th pctl	90 th pctl
IHA	EKRH	90	52	58%	101.3	317	0	7.9	29.5	81	172	223.5
	KGH	76	37	49%	158	553	0	2.5	17.8	113.5	286.3	324
	RIH	38	30	79%	72.3	350	4	7.4	13.3	26.5	65	215.2
	All facilities	204	119	58%	117	553	0	6	20.8	69.5	199.8	287.7
FHA	ARH	51	25	49%	136.6	358	6	10	31	112	220.5	332
	BUH	29	20	69%	83.3	322	1	4	7	31	132	239.2
	PAH	35	20	57%	118.5	358	1	1	21.5	70	219	277.6
	RCH	96	51	53%	107	215	1	17	38	80.5	202.3	205
	SMH	75	32	43%	136.4	283	0	4.4	24.5	142	263	267
	All facilities	286	148	52%	119	358	0	7	26	83	205.8	267
VCH	LGH	74	45	61%	71.3	287	0	1	22.3	54.5	120.8	139.4
	RH	41	19	46%	112.9	297	0	1	28	118	202	222
	UBC	61	42	69%	80.5	256	5	20	42	63	103	153
	VGH	114	72	63%	107.6	474	0	1	2	58	187.5	313
	All facilities	290	178	61%	93.4	474	0	1	16.5	63	125	239.4
PHC	SPH	105	54	51%	104.8	387	1	15.8	52	82	164	190.6
	All facilities	105	54	51%	104.8	387	1	15.8	52	82	164	190.6
VIHA	NRG	92	49	53%	150.3	663	4	6	18.8	70	307.8	323.9
	RJH	45	20	44%	135.5	345	1	1	7	107	243	325.6
	VGH (VIHA)	145	76	52%	134.2	474	0	2	7	69	294	350
	All facilities	282	145	51%	139.7	663	0	2.1	9	77	298.5	339.9
NH	UHNBC	60	33	55%	86.8	347	2	3	17.8	68	153.8	172.1
	All facilities	60	33	55%	86.8	347	2	3	17.8	68	153.8	172.1
PHSA	BCCA	65	34	52%	121	417	0	5.4	29	78	174	355.2
	BCCH	100	54	54%	124.4	542	0	1	12	90	146	368.2
	All facilities	165	85	52%	123	542	0	1.4	21	86	146	363
BC	All facilities	1392	762	55%	115.6	663	0	3	21	76	190	301.9

Data Source: Surgical Patient Registry, as of September 8, 2010, Ministry of Health Services, Management Information Branch, HSPD.

* Data was collected for the period of August 16-20, 2010.

Note: Data from Penticton Regional Hospital and Kootenay Boundary Regional Hospital was not captured. Please note that significant data limitations exist within this snapshot and results should be referred to and interpreted with caution.

Health Operations Committee Minutes

Friday, February 11, 2011 9:00 11:00 am

Chair: Heather Davidson, MoHS

HA Participants

MOHS Participants

Guests

Allan Sinclair (IHA) Arden Krystal (regrets) Catherine MacKay (VIHA) Jeff Coleman (VCHA) Michael Marchbank (PHSA) Michael McMillan (Michael Leisenger)

Andy Hazlewood Ann Marr Effie Henry Teri Collins Leigh Ann Seller Manjit Sidhu (Gordon Cross) Brenda Canitz

Not Responsive

Kirk Eaton Not Responsive

Chair, Heather Davidson (MoHS) opened the meeting.

Not Responsive

Not Responsive

5.0 Diagnostic Imaging Strategy

Kirk Eaton presented the guidelines for the prioritization of MRIs and wait time benchmarks. He advised that on January 27, 2011, an expert panel approved the new guidelines. This work represents a milestone in KRA8. These guidelines will assist radiologists on prioritizing work, promote fairness, and facilitate consistent and meaningful reporting. The guidelines are to be continuously reviewed and modified as necessary. Members appreciated the work that was done in establishing the guidelines but concerns were raised regarding setting benchmarks in advance of the study.

Action: The Ministry will conduct a study on wait time benchmarks for MRIs and their medical acceptability in summer 2011. Decision: Accept the urgency categories presented in the guidelines, but defer the decision on benchmarks and targets until a later date.

Not Responsive