Hospital for Sick Children Fetal MRI Reporting Template
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Indication: _
Obstetric History: _
Ultrasound findings: _

Gestational Age:
US: _/40 weeks by ultrasound on _dd/_mm/_yy
LMP: _dd/_mm/_yy
EDC: _dd/_mm/_yy

Technique: Multiplanar SSFSE _3mm@1.5mm _4mm@0mm _DWI _ADC _GRE

Findings:
The gestational age at the time of today's scan is _weeks+_days. There is _*number* intrauterine gestation_s in the _breech_/cephalic presentation. The occiput is _left_/right_/anterior_/posterior. The placenta is _*position* _with_/without evidence of previa and the liquor volume is _satisfactory_/increased_/decreased. Fetal motion is _/not seen during the examination; image quality is overall _good_/poor.

Head:
The BPD is _mm (equivalent to _ weeks). The OFD is _mm. The HC is calculated as _mm (equivalent to _ weeks). The ventricular system appears _ab/normal. The ventricular atrial measurements are left: _mm & right _mm. The third ventricle measures _mm. The choroid plexus is seen and _fills the ventricle _is dependent within the ventricle.
The cavum septum pellucidum is _present_/absent. The corpus callosum is _present_/absent
The basal ganglia appear _ab/normal. There is _appropriate_/delayed fissuration, sulcation & opercularisation. The following are seen:_/central sulcus, _/parieto-occipital sulcus, _/Sylvian fissure.
The cerebellar diameter is _mm (equivalent to _ weeks). The vermian craniocaudal diameter is _mm (equivalent to _ weeks). The fastigial point is _present_/absent. The primary fissure is _present_/absent. The cisterna magna appears _ab/normal.
The extra-axial CSF spaces are _normal/enlarged.

Face:
The intraocular distance is _mm (equivalent to _ weeks). The binocular distance is _mm (equivalent to _ weeks). This represents _eu/_hyper/_hypo_telorism. The ocular diameter is _mm (equivalent to _ weeks). There is _no evidence of microphthalmia.
The facial profile is _normal_/microcephalic_/micrograthic. The is _midline_/left_/right facial clefting.

Spine:
The visible spine appears _ab/normal. The conus tip is _low/normal in position.

Chest:
There is thoracic situs _solitus_/inversus. The shape of the thorax is _normal_/small_/bell-shaped. The lungs show uniform _normal mid-high_/abnormal low signal intensity. The diaphragms are clearly seen to divide the abdominal and thoracic cavities.

Abdomen:
There is abdominal situs _solitus_/inversus.
The stomach is _/not seen and appears _large_/small_/normal in size.
The cord insertion _is normal_/shows gastrischisis_/shows omphalocoele. There is a _3-_/2-vessel cord.
There _is/_are _one_/two kidneys which appear _ab/normal. The renal lengths are right _mm (equivalent to _ weeks), left _mm (equivalent to _ weeks). The bladder is _/not seen, and fills and empties during the scan. The genitalia are _XY_/XX phenotype.

Limbs:

Number of limbs seen is _4. Hands & feet are _/not identified. Muscle bulk appears _ab/normal. There are _/no contractures. There is _/no talipes.

Maternal:
Visible parts of the maternal kidneys/bladder/adnexae are _ab/normal. The visible maternal spine is _ab/normal.

Conclusions: _

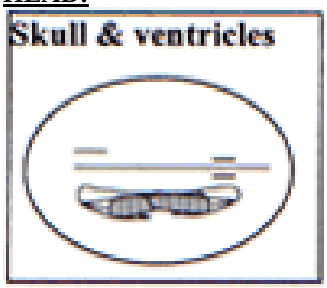
THE SECTION BELOW IS FOR REFERENCE ONLY – PLEASE DELETE FROM FINAL REPORT

REFERENCE NOTES:

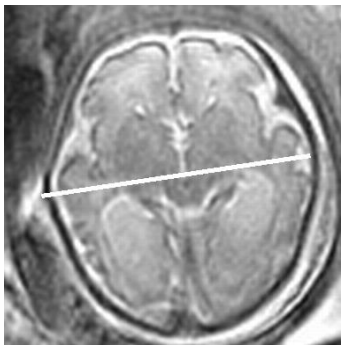
Placenta: Only say previa if it is directly over the internal os.

Liquor volume: Subjective assessment is most reproducible. Maximum pocket depth can be used and should be measured directly A-P with respect to the MOTHER and should be between 2 and 8 cm, without traversing fetal limbs or cord.

HEAD:



Bi-Parietal Diameter:
Ideally on an axial image that includes the cavum anteriorly, the thalami centrally and the tentorial hiatus posteriorly, measure from the inner table of the skull on one side to the outer table of skull on the other, like this:



A coronal image can also be used provided that the diameter transects the thalami.

Predicted Menstrual Age (MA) for Bi-Parietal Diameter (BPD) Measurements

BPD(cm)	MA(wk)	BPD(cm)	MA(wk)
2.6	*13.9*	*6.2*	*25.3*
2.7	*14.2*	*6.3*	*25.7*
2.8	*14.5*	*6.4*	*26.1*
2.9	*14.7*	*6.5*	*26.4*
3.0	*15.0*	*6.6*	*26.8*
3.1	*15.3*	*6.7*	*27.2*
3.2	*15.6*	*6.8*	*27.6*
3.3	*15.9*	*6.9*	*28.0*
3.4	*16.2*	*7.0*	*28.3*
3.5	*16.5*	*7.1*	*28.7*

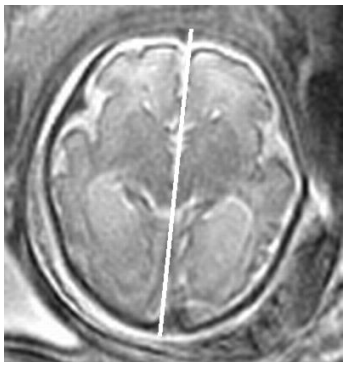
3.6	*16.8*	*7.2*	*29.1*
3.7	*17.1*	*7.3*	*29.5*
3.8	*17.4*	*7.4*	*29.9*
3.9	*17.7*	*7.5*	*30.4*
4.0	*18.0*	*7.6*	*30.8*
4.1	*18.3*	*7.7*	*31.2*
4.2	*18.6*	*7.8*	*31.6*
4.3	*18.9*	*7.9*	*32.0*
4.4	*19.2*	*8.0*	*32.5*
4.5	*19.5*	*8.1*	*32.9*
4.6	*19.9*	*8.3*	*33.3*
4.7	*20.2*	*8.3*	*33.8*
4.8	*20.5*	*8.4*	*34.2*
4.9	*20.8*	*8.5*	*34.7*
5.0	*21.2*	*8.6*	*35.1*
5.1	*21.5*	*8.7*	*35.6*
5.2	*21.8*	*8.8*	*36.1*
5.3	*22.2*	*8.9*	*36.5*
5.4	*22.5*	*9.0*	*37.0*
5.5	*22.8*	*9.1*	*37.5*
5.6	*23.2*	*9.2*	*38.0*
5.7	*23.5*	*9.3*	*38.5*
5.8	*23.9*	*9.4*	*38.9*
5.9	*24.2*	*9.5*	*39.4*
6.0	*24.6*	*9.6*	*39.9*
6.1	*25.0*	*9.7*	*40.5*

From Hadlock FP, Deter RL, Harrist RB, et al: Fetal biparietal diameter: A critical reevaluation ofthe relation to menstrual age by means of real-time ultrasound. J Ultrasound Med 1:97, 1982

Head Circumference:

HC=BPD+OFDx1.57 (BPD=biparietal diameter, OFD=occipitofrontal diameter)

Ideally on an axial image that includes the cavum anteriorly, the thalami centrally and the tentorial hiatus posteriorly, measure OFD from the outer table of the skull anteriorly to the outer table of skull on posteriorly, like this:



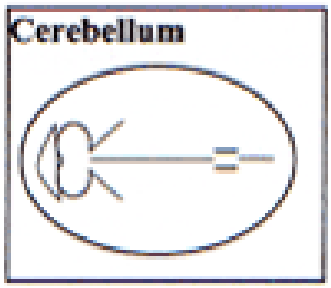
Predicted Menstrual Age (MA) for Head Circumference (HC) Measurements

HC(cm)	**MA(week)**	**HC(cm)**	**MA(week)**
8.5	*13.7*	*22.5*	*24.4*
9.0	*14.0*	*23.0*	*24.9*
9.5	*14.3*	*23.5*	*25.4*
10.0	*14.6*	*24.0*	*25.9*
10.5	*15.0*	*24.5*	*26.4*
11.0	*15.3*	*25.0*	*26.9*
11.5	*15.6*	*25.5*	*27.5*
12.0	*15.9*	*26.0*	*28.0*
12.5	*16.3*	*26.5*	*28.6*
13.0	*16.6*	*27.0*	*29.2*
13.5	*17.0*	*27.5*	*29.8*

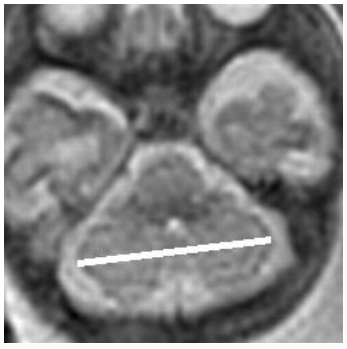
14.0	*17.3*	*28.0*	*30.3*
14.5	*17.7*	*28.5*	*31.0*
15.0	*18.1*	*29.0*	*31.6*
15.5	*18.4*	*29.5*	*32.2*
16.0	*18.8*	*30.0*	*32.8*
16.5	*19.2*	*30.5*	*33.5*
17.0	*19.6*	*31.0*	*34.2*
17.5	*20.0*	*31.5*	*34.9*
18.0	*20.4*	*32.0*	*35.5*
18.5	*20.8*	*32.5*	*36.3*
19.0	*21.2*	*33.0*	*37.0*
19.5	*21.6*	*33.5*	*37.7*
20.0	*22.1*	*34.0*	*38.5*
20.5	*22.5*	*34.5*	*39.2*
21.0	*23.0*	*35.0*	*40.0*
21.5	*23.4*	*35.5*	*40.8*
22.0	*23.9*	*36.0*	*41.6*

From Hadlock FP, Deter RL, Harrist RB, Park SK: Fetal head circumference: Relation to menstrual age. AJR Am J RoentgenoI138:649, 1982. Copyright 1982, American Roentgen Ray Society.

Cerebellar diameter:



On an image that includes the cerebellar hemispheres at their widest, measure CB from side to side at the widest point, like this:



Predicted Menstrual Ages (MA) for Transverse Cerebellar Diameter (CB):

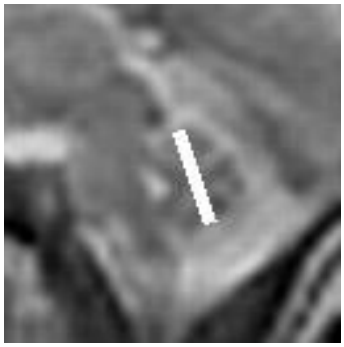
CB(mm)	MA(wk)	CB(mm)	MA(wk)
14	*15.2*	*35*	*29.4*
15	*15.8*	*36*	*30.0*
16	*16.5*	*37*	*30.6*
17	*17.2*	*38*	*31.2*
18	*17.9*	*39*	*31.8*
19	*18.6*	*40*	*32.3*
20	*19.3*	*41*	*32.8*
21	*20.0*	*42*	*33.4*
22	*20.7*	*43*	*33.9*
23	*21.4*	*44*	*34.4*
24	*22.1*	*45*	*34.8*
25	*22.8*	*46*	*35.3*
26	*23.5*	*47*	*35.7*

27	*24.2*	*48*	*36.1*
28	*24.9*	*49*	*36.5*
29	*25.5*	*50*	*36.8*
30	*26.2*	*51*	*37.2*
31	*26.9*	*52*	*37.5*
32	*27.5*	*54*	*38.0*
33	*28.1*	*55*	*38.3*
34	*28.8*	*56*	*38.5*

From Hill LM, Guzick D, Fries J, et al: The transverse cerebellar diameter in estimating gestational age in the large-for-gestational-age fetus. Obstetrics and Gynecology 1990, 75:983).

Cerebellar vermis:

On a midline sagittal image, measure CV from the upper edge to the lower edge, parallel to the tegmentum, like this:



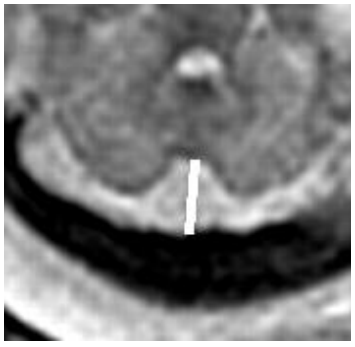
Predicted cerebellar vermis (CV) craniocaudal diameter for menstrual age (MA):

GA(wk)	**CV(mm)**	**GA (wk)**	**CV(mm)**
14	*4.6*	*28*	*14.8*
15	*5.3*	*29*	*15.6*
16	*6.1*	*30*	*16.3*
17	*6.8*	*31*	*17.0*
18	*7.5*	*32*	*17.7*
19	*8.3*	*33*	*18.5*
20	*9.0*	*34*	*19.2*
21	*9.7*	*35*	*19.9*
22	*10.4*	*36*	*20.7*
23	*11.2*	*37*	*21.4*
24	*11.9*	*38*	*22.1*
25	*12.6*	*39*	*22.9*
26	*13.4*	*40*	*23.6*
27	*14.1*		

From Robinson A J, Blaser S, Toi A et al.

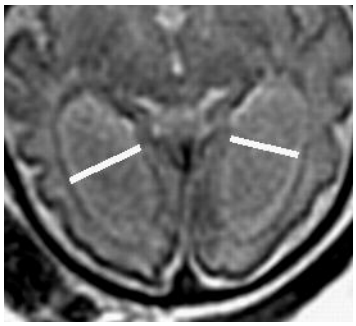
Cisterna magna:

Ideally on an axial image that includes the cavum septum pellucidum anteriorly, and the largest diameter of the cerebellar hemispheres posteriorly, measure from posterior edge of vermis to inner table of skull, like this:



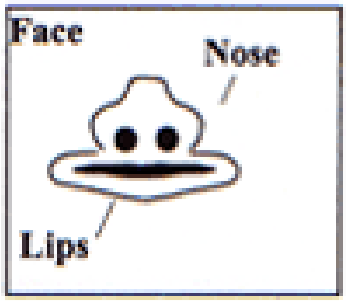
should be between 3 and 10 mm measured in the plane that includes cavum and thalami.

Ventricular Atrium:
On an image at a slightly lower plane than that used for the BPD, measure the VA perpendicular to the lateral wall of the ventricle, like this:

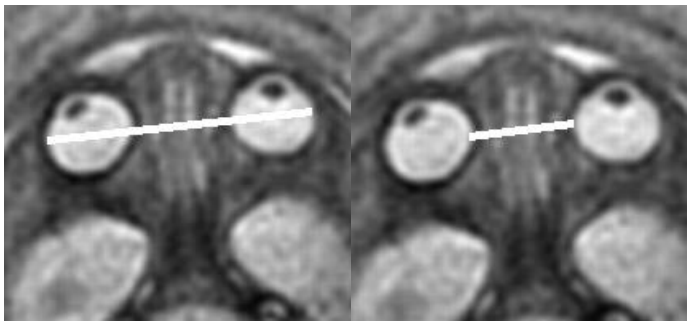


should be between 3 and 10mm at any gestation

FACE:



Eyes:
On an image that transects the equators of both eyes (or nearly) either coronal or axial, measure BOD from the outer edges of each eye, and IOD from the inner edges, like this:



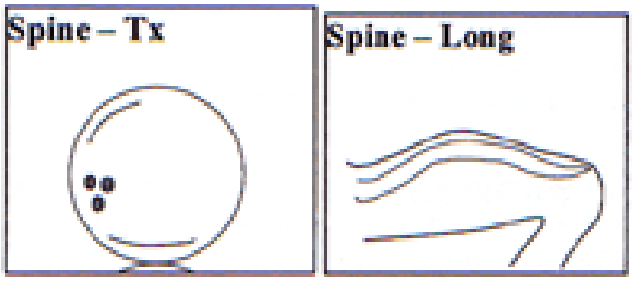
Growth of the Ocular Parameters binocular distance (BOD), interocular distance (IOD) and ocular diameter (OD) for menstrual age (MA)

MA(wk)	BOD(mm)	IOD(mm)	OD(mm)
15	*23.7*	*11.3*	*6.2*
16	*25.2*	*11.8*	*6.7*
17	*26.6*	*12.4*	*7.1*
18	*28.1*	*12.9*	*7.6*
19	*29.5*	*13.4*	*8.1*
20	*31.0*	*13.9*	*8.5*
21	*32.4*	*14.5*	*9.0*
22	*33.9*	*15.0*	*9.4*
23	*35.3*	*15.5*	*9.9*
24	*36.8*	*16.0*	*10.4*
25	*38.2*	*16.6*	*10.8*
26	*39.7*	*17.1*	*11.3*
27	*41.1*	*17.6*	*11.8*

28	*42.6*	*18.1*	*12.2*
29	*44.0*	*18.6*	*12.7*
30	*45.5*	*19.2*	*13.2*
31	*46.9*	*19.7*	*13.6*
32	*48.4*	*20.2*	*14.1*
33	*49.9*	*20.7*	*14.6*
34	*51.3*	*21.3*	*15.0*
35	*52.8*	*21.8*	*15.5*
36	*54.2*	*22.3*	*16.0*
37	*55.7*	*22.8*	*16.4*
38	*57.1*	*23.4*	*16.9*
39	*58.6*	*23.9*	*17.3*
40	*60.0*	*24.4*	*17.8*

From Robinson A J, Blaser S, Toi A et al.

SPINE:



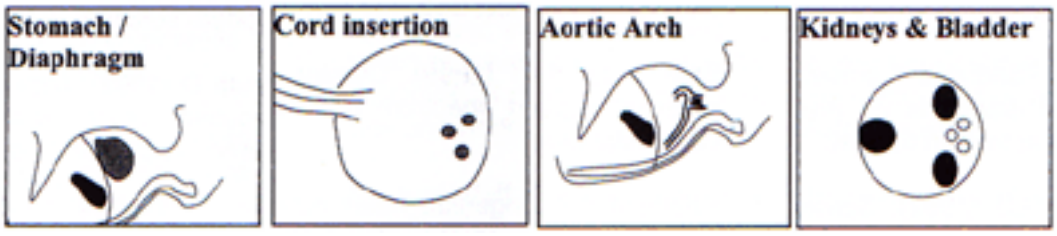
Assess in at least two planes before calling normal. Try to see the whole spine away from the uterus wall or a small sacral meningocoele could be missed.

CHEST:

In order to assess situs you must know the exact lie of the baby with respect to mother, and know which was you are cinelooping through the images i.e. back to front/left to right. This is easiest using a good localization sequence with orthogonal planes to the mother.

Situs is difficult to be certain unless you can identify the bronchial branching pattern. Use other findings such as relationship between trachea and aorta, and abdominal situs to help.

ABDOMEN:



Situs is again difficult. It is likely to be normal if the IVC is anterior and to the right of the aorta, and the IVC is not interrupted, but this is only roughly 90% accurate.

Abdominal Circumference:

Predicted Menstrual Age (MA) for Abdominal Circumference (AC) Measurements

AC(cm)	**MA(wk)**	**AC(cm)**	**MA(wk)**
10.0	*15.6*	*23.5*	*27.7*
10.5	*16.1*	*24.0*	*28.2*
11.0	*16.5*	*24.5*	*28.7*
11.5	*16.9*	*25.0*	*29.2*
12.0	*17.3*	*25.5*	*29.7*
12.5	*17.8*	*26.0*	*30.1*
13.0	*18.2*	*26.5*	*30.6*

13.5	*18.6*	*27.0*	*31.1*
14.0	*19.1*	*27.5*	*31.6*
14.5	*19.5*	*28.0*	*32.1*
15.0	*20.0*	*28.5*	*32.6*
15.5	*20.4*	*29.0*	*33.1*
16.0	*20.8*	*29.5*	*33.6*
16.5	*21.3*	*30.0*	*34.1*
17.0	*21.7*	*30.5*	*34.6*
17.5	*22.2*	*31.0*	*35.1*
18.0	*22.6*	*31.5*	*35.6*
18.5	*23.1*	*32.0*	*36.1*
19.0	*23.6*	*32.5*	*36.6*
19.5	*24.0*	*33.0*	*37.1*
20.0	*24.5*	*33.5*	*37.6*
20.5	*24.9*	*34.0*	*38.1*
21.0	*25.4*	*34.5*	*38.7*
21.5	*25.9*	*35.0*	*39.2*
22.0	*26.3*	*35.5*	*39.7*
22.5	*26.8*	*36.0*	*40.2*
23.0	*27.3*		

From Hadlock FP, Deter RL, Harrist RB, Park SK: Fetal abdominal circumference as a predictor of menstrual age. AJR Am J RoentgenoI139:367, 1982.

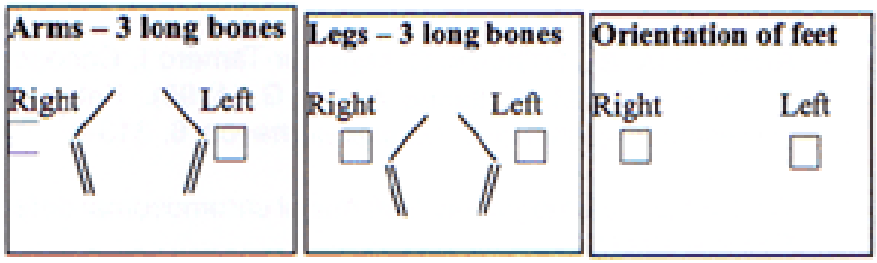
Kidneys:

Predicted Renal Length (RL) for Gestational Age (GA)

GA(wk)	**RL(cm)**	**GA(wk)**	**RL(cm)**
18	*2.2*	*30*	*3.8*
19	*2.3*	*31*	*3.7*
20	*2.6*	*32*	*4.1*
21	*2.7*	*33*	*4.0*
22	*2.7*	*34*	*4.2*
23	*3.0*	*35*	*4.2*
24	*3.1*	*36*	*4.2*
25	*3.3*	*37*	*4.2*
26	*3.4*	*38*	*4.4*
27	*3.5*	*39*	*4.2*
28	*3.4*	*40*	*4.3*
29	*3.6*	*41*	*4.5*

Adapted from Cohen HL, Cooper J, Eisenberg P, et al: Normal length of fetal kidneys: Sonographic study in 397 obstetric patients. AJR Am J Roentgenol157545, 1991.

LIMBS:



Don’t assess for talipes if the feet are against the uterus wall because this can passively flex the ankle.