eAppendix Surveys

eAppendix 1. Program Director Survey

*Denotes mandatory question

1. **What is the name of your university?**
   - Memorial University of Newfoundland
   - Dalhousie University
   - Université Laval
   - Université de Sherbrooke
   - Université de Montréal
   - McGill University
   - University of Ottawa
   - Queen’s University
   - University of Toronto
   - McMaster University
   - Western University
   - University of Manitoba
   - University of Saskatchewan
   - University of Alberta
   - University of Calgary
   - University of British Columbia

2. **Does your program have a formal neuroradiology curriculum?**
   - Yes
   - No

3. **If so, during which year(s) of the residency program is the formal neuroradiology curriculum delivered?**
   - PGY-1
   - PGY-2
   - PGY-3
   - PGY-4
   - PGY-5

4. **If so, which of the following imaging modalities are included in the formal neuroradiology curriculum?**
   - CT Head
   - CT Angiography of head and neck
   - MRI Head
   - MRI Spine
   - Doppler ultrasound of the carotid arteries
   - Transcranial Doppler ultrasound
   - Conventional catheter angiography
   - Brain perfusion scan
   - Nuclear medicine scan (e.g. PET)
5. Is a rotation in neuroradiology mandatory in your residency program?*
   ● Yes
   ● No

6. If so, what is the total duration of the mandatory rotations in neuroradiology?
   ● 2 weeks
   ● 3 weeks
   ● 4 weeks
   ● 4-8 weeks
   ● >8 weeks

7. Are the competencies in interpreting neuroimaging studies of the residents of your program formally assessed?*
   ● Yes
   ● No

8. If so, which are the main modalities used to assess neuroimaging interpretation competencies?
   ● Written assessments (multiple choice)
   ● Written assessments (short answer)
   ● Assessment through direct observation in the clinical setting (e.g. specific EPA)
   ● Oral presentation
   ● Simulation-based session (e.g. OSCE)
   ● Other (specify)

9. Which resources are available to residents in your program for training in neuroradiology?*
   ● Pathology neuroradiology conference
   ● Didactic lectures
   ● Teaching cases
   ● Imaging websites
   ● Online lectures
   ● Not sure
   ● Other (specify)

10-18. Please rate your impression of senior residents’ competence in accurately interpreting the following neuroimaging studies on a scale from 1-5. *
   - Computed Tomography (CT) - Head
   - Computed Tomography Angiography (CTA) - Head and Neck
   - MRI - Head
   - MRI - Spine
   - Doppler Ultrasound - Transcranial
   - Doppler Ultrasound - Carotid arteries
   - Brain Perfusion Scan
   - Conventional Catheter Angiography
   - Nuclear Medicine Scans (e.g. PET)
19. Do you think the residents in your program receive sufficient neuroradiology training?

20. If you are in favour of increasing neuroradiology training in your program, please rank the following barriers to doing so from most (1) to least (6) important.*

- lack of time in curriculum
- lack of trainee spots in radiology rotations
- lack of educators
- lack of interest from trainees
- lack of access to non-clinical educational resources
- lack of high-quality educational material for this purpose

21. If there are other barriers to increasing neuroradiology training in your program, please describe them below.
   - Short answer response

22. Do you think there is too much neuroradiology training included in your program?*
   - Yes
   - No
eAppendix 2. Neurology Resident Survey

*Denotes mandatory question

1. **What is the name of your university?**
   - Memorial University of Newfoundland
   - Dalhousie University
   - Université Laval
   - Université de Sherbrooke
   - Université de Montréal
   - McGill University
   - University of Ottawa
   - Queen’s University
   - University of Toronto
   - McMaster University
   - Western University
   - University of Manitoba
   - University of Saskatchewan
   - University of Alberta
   - University of Calgary
   - University of British Columbia

2. **What post-graduate year are you currently in?**
   - PGY-1
   - PGY-2
   - PGY-3
   - PGY-4
   - PGY-5
   - Other (specify)

3. **What resources are available to you for Neuroradiology training as part of your program? (multiple answers allowed)**
   - Didactic lectures
   - Online lectures
   - Teaching cases
   - Imaging websites
   - Neuroradiology conference
   - Not sure
   - Other (specify)

4. **What resources are you using to enhance your learning about Neuroradiology? (multiple answers allowed)**
   - Didactic lectures
   - Online lectures
   - Teaching cases
   - Imaging websites
   - Neuroradiology conference
   - Other (specify)
5. On a rotation in Neurology, how much time are you spending per week on average reviewing imaging studies face-to-face with a Neuroradiologist (including radiology rounds)?
   ● 15 minutes or less
   ● 30 minutes
   ● 1 hour
   ● 2 hours
   ● 4 hours
   ● >4 hours

6. On a rotation in Neurology, how much time are you spending per week on average reviewing imaging studies face-to-face with a Neurologist well-versed in neuroimaging (including radiology rounds)?
   ● 15 minutes or less
   ● 30 minutes
   ● 1 hour
   ● 2 hours
   ● 4 hours
   ● >4 hours

7-15. Please rate your impression of your own competence in accurately interpreting the following diagnostic neuroimaging studies on a scale of 1-5.

- Computed Tomography (CT) - Head
- Computed Tomography Angiography (CTA) - Head and Neck
- MRI - Head
- MRI - Spine
- Doppler Ultrasound - Transcranial
- Doppler Ultrasound - Carotid arteries
- Brain Perfusion Scan
- Conventional Catheter Angiography
- Nuclear Medicine Scans (e.g. PET)

16. Do you think your residency program provides sufficient Neuroradiology training?

17. Do you think there is too much Neuroradiology training included in your residency program?
   ● Yes
   ● No
18. What are your thoughts on a mandatory 1-month Radiology rotation to enhance your training in Neuroradiology?*
- I agree
- I prefer a cumulative Radiology rotation longer than one month (over the course of residency)
- It is not needed as Neuroradiology exposure is sufficient in other clinical rotations
- It is not needed as Neuroradiology exposure is sufficient in other educational activities
- Other (specify)

19. How often should you have radiological didactics (combinations allowed)? (multiple answers allowed)*
- One hour per week
- One hour every 2 weeks
- One hour per month
- One half-day per month
- Two dedicated days per year
- One dedicated day per year
- Other (specify)

20. Who should teach these radiological didactics?*
- Radiology residents
- Neuroradiologist/Interventional Neuroradiologist
- Neurology residents
- Neurology attendings
- Other (specify)

21. What neuroimaging modalities are you most interested in being taught? (multiple answers allowed)*
- CT head
- CT Angiography of head and neck
- MRI head
- MRI spine
- Doppler ultrasound of the carotid arteries
- Transcranial Doppler ultrasound
- Conventional catheter angiography
- Brain perfusion scan
- Nuclear medicine scan (e.g. PET)

Diagnostic Exercise
correct answers are highlighted in yellow
22. What is the finding depicted?*
- Subdural hemorrhage
- Subarachnoid hemorrhage
- Bacterial meningitis
- Pyogenic leptomeningitis

23. What is the finding depicted?*
- Lytic bone lesion
- Meningioma
- Cavernous sinus thrombosis
- Cavernous hemangioma

24. What is the finding depicted?*
- Skull base fracture
- Carotid dissection
- Paraganglioma
- Vasospasm

25. What is depicted?*
3rd ventricle dilatation
Arachnoid cysts
Thalamic stroke
Pineal gland nodularity

26. Which is the most likely diagnosis?*
- Communicating hydrocephalus
- Normal pressure hydrocephalus
- **Obstructive hydrocephalus**
- Cortical atrophy

27. Which is the most likely diagnosis?*
- Acute hemorrhagic leukoencephalitis
- Metastasis
- Multiple sclerosis
- **Acute disseminated encephalomyelitis**
28. Which is the most likely diagnosis?*
- Creutzfeldt-Jakob disease
- Hypoxic-ischemic encephalopathy
- Osmotic demyelination
- Wilson Disease

29. What finding is present?*
- Metastases
- Colloid Cyst
- Pineal gland
- Calcified meningioma
30. Which is the most likely diagnosis?*
   Encephalomalacia
   Subdural hemorrhage
   **Arachnoid cyst**
   Hemangioblastoma

31. Which is the most likely diagnosis?*
   - Encephalomalacia
   - **Multiple sclerosis**
   - Astrocytoma
   - Subacute combined degeneration
32. **What finding is shown?**
- Fat emboli
- Cerebral amyloid angiopathy
- Cerebral vasculitis
- Moyamoya

33. **Which is the most likely diagnosis?**
- Leigh disease
- Uremic encephalopathy
- Osmotic demyelination syndrome
- Wernicke encephalopathy
34. Which is the most likely diagnosis?*
- Progressive supranuclear palsy
- Creutzfeldt-Jacob disease
- Multiple system atrophy
- Corticobasal degeneration

35. Which is the most likely diagnosis?*
- Pontine infarct
- Osmotic demyelination syndrome
- Metastases
- Abscess
36. Which is the most likely diagnosis?*
- Hypertensive brainstem encephalopathy
- Severe hypoglycemia
- Cerebral amyloid angiopathy
- Posterior reversible encephalopathy syndrome