Online Supplement

Online Supplemental Table.

ASNR vessel wall imaging survey

Extracranial Carotid Vessel Wall Imaging Survey Section

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18. Does your institution perform extracranial carotid vessel wall MRI?

- Yes
- No

ASNR vessel wall imaging survey

Extracranial Carotid Vessel Wall Imaging Survey Section

19. Indicate the MRI system upon which carotid vessel wall imaging scans are performed at your institution (choose all that apply)

- [ ] Siemens 1.5T
- [ ] Siemens 3T
- [ ] Philips 1.5T
- [ ] Other (please specify)
- [ ] Philips 3T
- [ ] GE 1.5T
- [ ] GE 3T

20. If your institution performs carotid vessel wall MRI, on average how often?

- ○ Only a handful of times ever
- ○ Rarely (once every couple months)
- ○ Occasionally (1-2 times per month)
- ○ Consistently (once per week)
- ○ Frequently (at least 2 times per week)
- ○ Other (please specify)

21. Is carotid vessel wall MRI clinically being performed as (answer all that apply)

- [ ] A stand alone exam ordered by clinicians
- [ ] An add-on to MRA neck or MR stroke exams ordered by clinicians
- [ ] An add-on from the protocoling radiologist
- [ ] A stand-alone exam protocoled by the radiologist from a different MRI study ordered from the clinicians
- [ ] An add-on from the technologist scanning the patient
- [ ] A standard component of routine clinical scans (ie all MRA neck or all MRI stroke protocols)
- [ ] Other (please specify)

22. For what primary purpose does your institution perform carotid vessel wall imaging? (Choose all that apply)

- [ ] Research
- [ ] Detection of atherosclerotic plaque hemorrhage
- [ ] Additional atherosclerotic plaque characterization for plaque vulnerability assessment
- [ ] Evaluation of large artery inflammatory vasculopathies
- [ ] Elucidation of cause of cryptogenic stroke
- [ ] Dissection characterization and/or detection
- [ ] Other (please specify)

23. Does your institution have a research agreement with an MRI vendor?

- ( ) Yes
- ( ) No
- ( ) Not sure

24. If yes to question 23, has your institution sought help from the vendor to develop your carotid vessel wall MRI protocol?

- ( ) Yes
- ( ) No
- ( ) Not sure

25. Has the interaction with your vendor led to implementation of an effective carotid vessel wall imaging protocol? (If yes, select the vendor below) (choose all that apply)

- [ ] GE
- [ ] Philips
- [ ] Siemens
- [ ] Other (please specify)

26. How has your interaction been with the vendors in developing a protocol? (Answer all that apply)

- [ ] Excellent, they provided a solution that has worked for us
- [ ] There were initial difficulties but now we have a solution
- [ ] We are still looking for an adequate solution
- [ ] Vendor contribution has been somewhat limited
- [ ] Other (please specify)

27. Does your institution perform 2D, 3D or combined carotid vessel wall imaging protocols?

- ( ) 2D only
- ( ) 3D only
- ( ) Combined protocols

28. Why do you use the specific protocol that you use? (2D, 3D or both) (choose all that apply)

- [ ] Technical limitations/availability
- [ ] Based on guidance from the literature, lectures attended or study groups
- [ ] Time constraints
- [ ] Other (please specify)

29. Was this protocol provided by (choose all that apply):

- [ ] The vendor
- [ ] Developed in-house
- [ ] Provided from another institution
- [ ] Not sure
- [ ] Other (please specify)

30. What sequences do you employ as part of your carotid vessel wall imaging protocol? (choose all that apply)

- [ ] T1-weighted VWI sequence
- [ ] Post-contrast T1-weighted VWI
- [ ] T2-weighted VWI
- [ ] 3D GRE sequence (MPRAGE, SPGR, etc.)
- [ ] 3D SNAP
- [ ] TOF MRA
- [ ] Contrast enhanced MRA
- [ ] Other (please specify)

31. If your institution is not performing carotid vessel wall imaging (respond to this question only if you are not using carotid VWI), what barriers does your institution face for implementation? (choose all that apply)

- [ ] Lack of clinician interest
- [ ] Lack of radiologist time/interest to provide input for protocol development
- [ ] Lack of vendor/technical support to develop protocols
- [ ] Limited personal knowledge of applications/value
- [ ] Limited expertise of interpretation
- [ ] Long scan times limit clinical feasibility at your institution
- [ ] Patient population at your institution would not benefit from this technique
- [ ] Lack of standardized protocols
- [ ] Other (please specify)

32. If technical/expertise obstacles were overcome, would your institution pursue this technique? (respond to this question only if you do not perform carotid VWI)

- ( ) Yes
- ( ) No
- ( ) Not sure

33. Have your clinicians approached the radiologists in your group in regards to performing carotid vessel wall imaging? If so, which clinician groups? (choose all that apply)

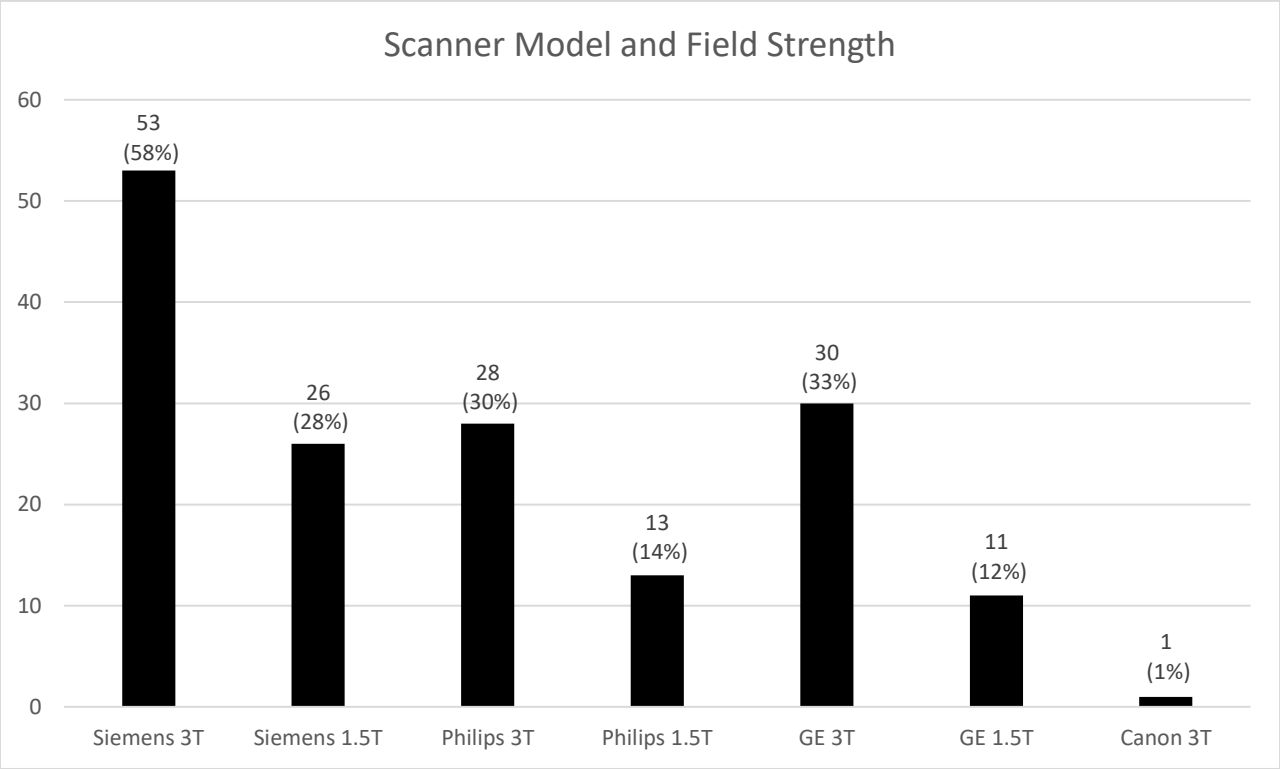
- [ ] Rheumatology
- [ ] Stroke neurology
- [ ] Neurosurgery
- [ ] Psychiatry
- [ ] Vascular Surgery
- [ ] Cardiology
- [ ] No clinical services have approached radiology about development of IVW
- [ ] Unsure
- [ ] Other (please specify)

34. In your opinion, has carotid vessel wall imaging influenced patient management at your institution?

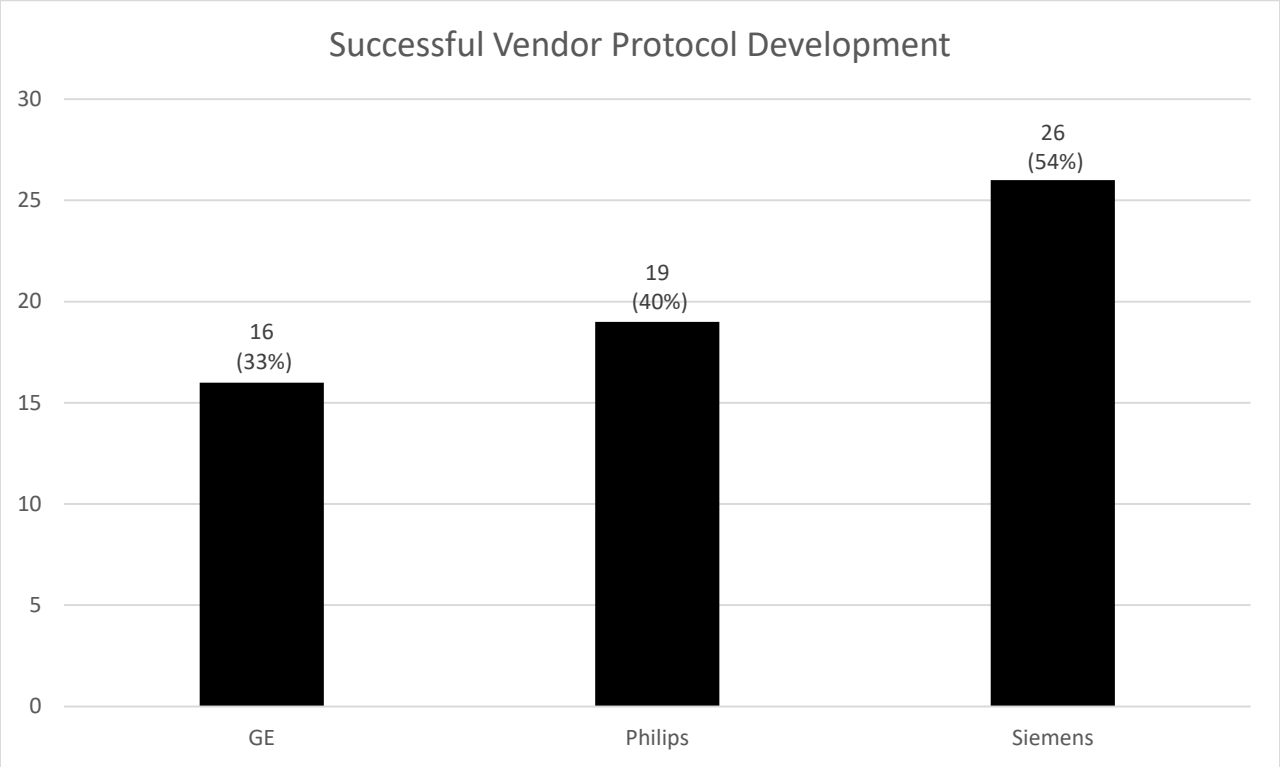
- ( ) Yes
- ( ) No
- ( ) Not sure

35. For questions about the survey, please contact XXX.

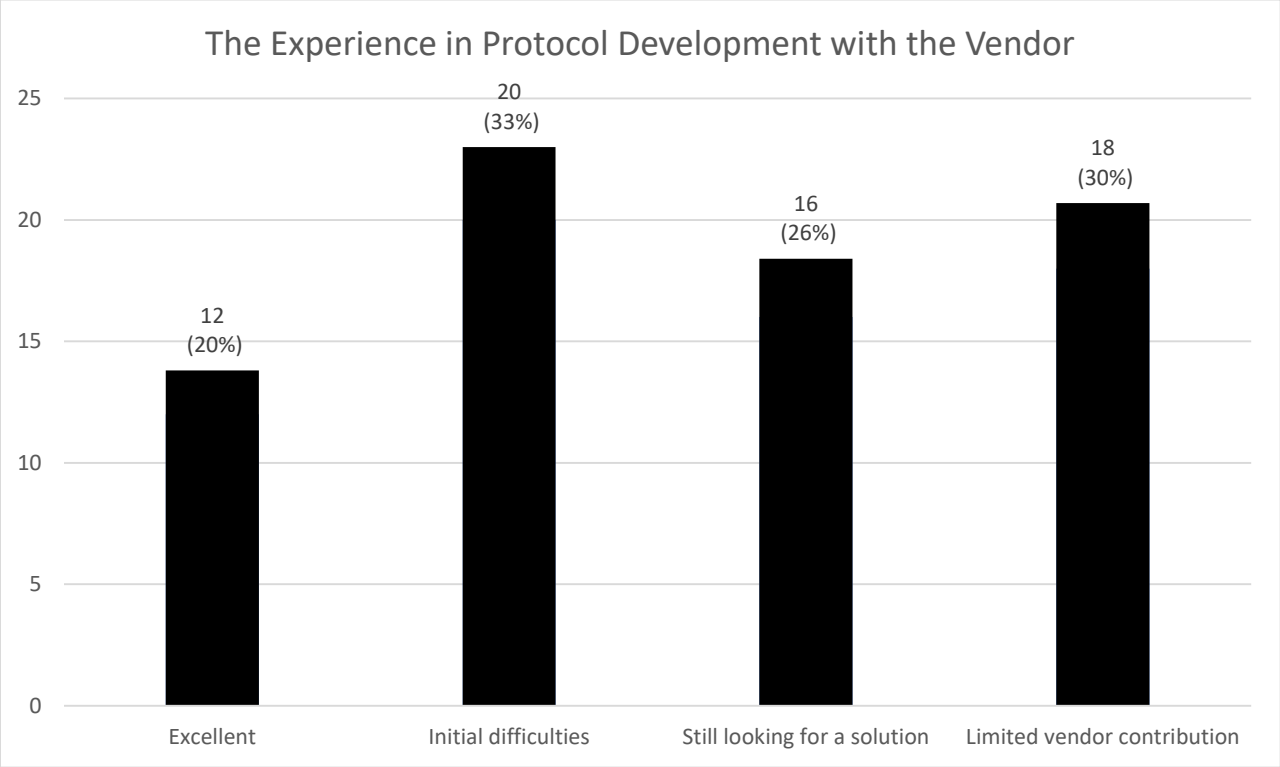
Online Supplemental Figure. Question: Indicate the MRI system upon which carotid vessel wall imaging scans are performed at your institution (choose all that apply). There were 92 respondents with 162 responses.



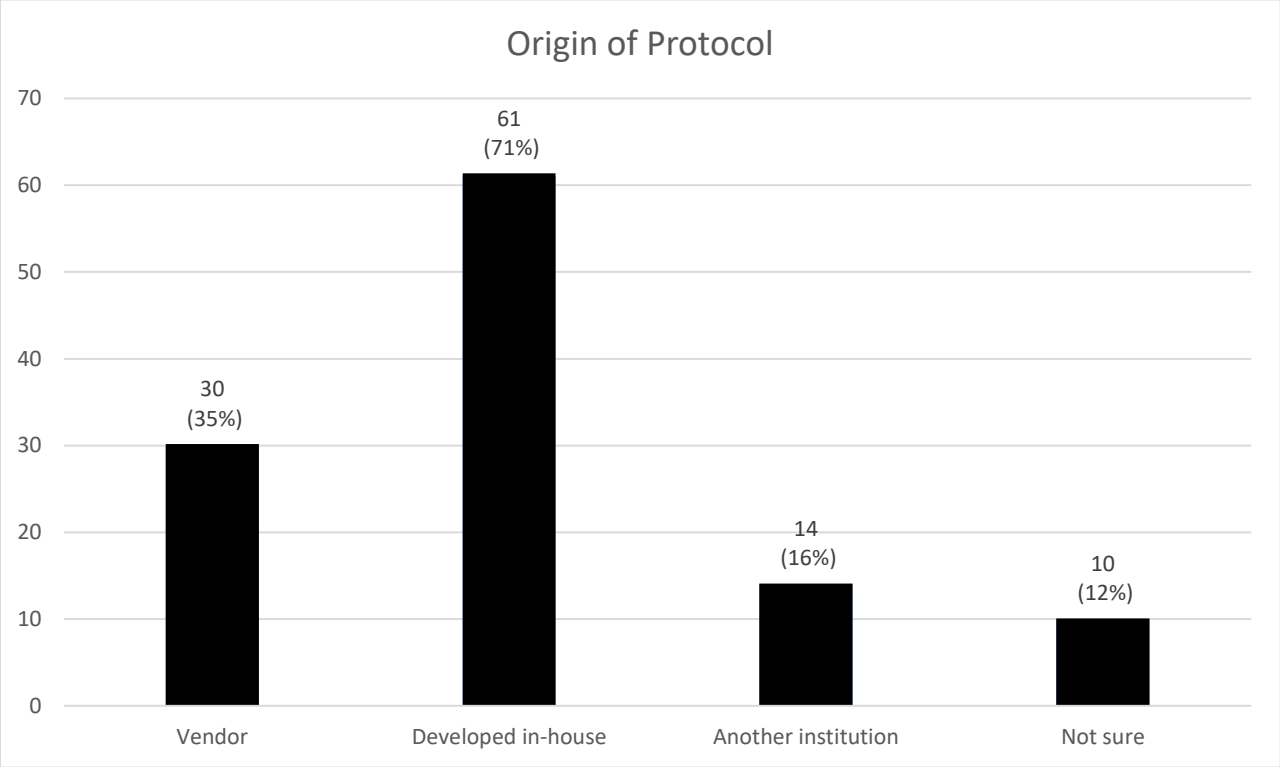
Online Supplemental Figure. Question: Has the interaction with your vendor led to implementation of an effective carotid vessel wall imaging protocol (If yes, select the vendor below) (choose all that apply)? There were 48 respondents with 61 responses.



Online Supplemental Figure. Question: How has your interaction been with the vendors in developing a protocol (Answer all that apply)? There were 61 respondents with 66 responses.

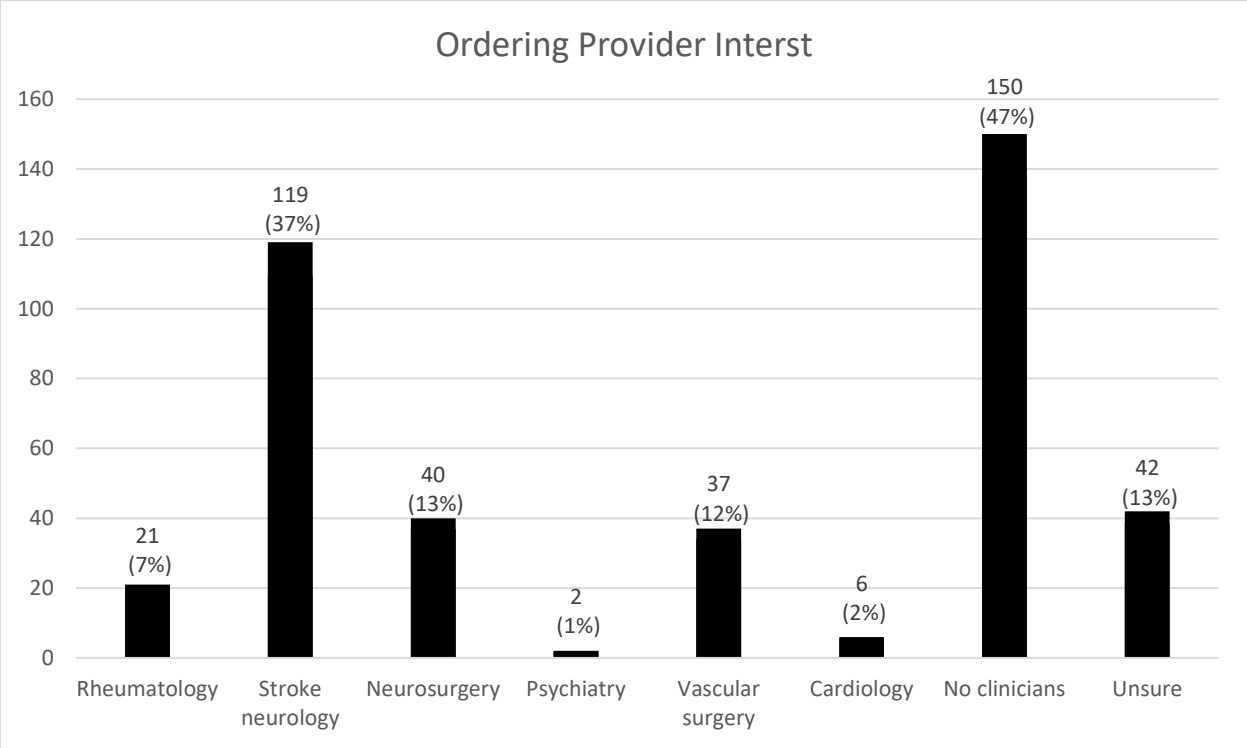


Online Supplemental Figure. Question: Was this protocol provided by (choose all that apply). There were 86 respondents with 115 responses.



Online Supplemental Figure. Question: What sequences do you employ as part of your carotid vessel wall imaging protocol (choose all that apply)? There were 85 respondents with 335 responses.

Online Supplemental Figure. Question: Have your clinicians approached the radiologists in your group in regards to performing carotid vessel wall imaging? If so, which clinician groups (choose all that apply)? There were 320 respondents with 417 responses.



Online Supplemental Table. Distribution and pattern of responses for Question #31.

0 responses	n	Percent
Total	53	17.40%

1 response	n	Percent
No clinician interest	26	8.60%
No vendor/technical support to develop protocols	7	2.30%
patient population would not benefit from this technique	7	2.30%
Long scan times limit clinical feasibility	5	1.60%
No standardized protocol	5	1.60%
Limited expertise of interpretation	5	1.60%
Limited personal knowledge of applications/value	4	1.30%
No radiologist time/interest for protocol development	3	1.00%
No coverage by local insurance	1	0.33%
Total	63	20.70%

2 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development	9	2.96%
No clinician interest Limited personal knowledge of applications/value	5	1.64%
No clinician interest No vendor/technical support to develop protocols	5	1.64%
No clinician interest Long scan times limit clinical feasibility	4	1.32%
No clinician interest Limited expertise of interpretation	3	1%
Limited personal knowledge of applications/value No evidence of benefit	3	1%
No vendor/technical support to develop protocols No standardized protocol	2	0.66%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols	2	0.66%
Limited personal knowledge of applications/value No standardized protocol	2	0.66%
No radiologist time/interest for protocol development Long scan times limit clinical feasibility	2	0.66%
Limited personal knowledge of applications/value Limited expertise of interpretation	1	0.33%
Limited expertise of interpretation No standardized protocol	1	0.33%
No vendor/technical support to develop protocols Limited personal knowledge of applications/value	1	0.33%
No vendor/technical support to develop protocols Limited expertise of interpretation	1	0.33%
Total	41	13.50%

5 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	8	2.63%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation	7	2.30%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Long scan times limit clinical feasibility No standardized protocol	3	1%
No clinician interest No radiologist time/interest for protocol development Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility	3	1%
No clinician interest No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	2	0.66%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation No standardized protocol	2	0.66%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	2	0.66%
No clinician interest No vendor/technical support to develop protocols Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%

3 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols	7	2.30%
No clinician interest Limited personal knowledge of applications/value Limited expertise of interpretation	6	1.97%
No clinician interest Limited expertise of interpretation No standardized protocol	4	1.32%
No clinician interest Limited personal knowledge of applications/value No standardized protocol	3	1%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value	3	1%
No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation	3	1%
No clinician interest No vendor/technical support to develop protocols Long scan times limit clinical feasibility	2	0.66%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation	2	0.66%
No vendor/technical support to develop protocols Limited expertise of interpretation No standardized protocol	2	0.66%
No radiologist time/interest for protocol development Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No clinician interest No vendor/technical support to develop protocols Limited personal knowledge of applications/value	1	0.33%
Limited personal knowledge of applications/value Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No clinician interest No radiologist time/interest for protocol development No standardized protocol	1	0.33%
No vendor/technical support to develop protocols Limited personal knowledge of applications/value No standardized protocol	1	0.33%
No radiologist time/interest for protocol development Limited personal knowledge of applications/value Limited expertise of interpretation	1	0.33%
No clinician interest No radiologist time/interest for protocol development	1	0.33%
No clinician interest Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility	1	0.33%
No clinician interest No radiologist time/interest for protocol development Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%
Total	32	10.53%

6 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	6	1.97%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility	5	1.64%
No clinician interest No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	2	0.66%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation patient population would not benefit from this technique	1	0.33%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%

Limited expertise of interpretation		
No clinician interest Limited personal knowledge of applications/value patient population would not benefit from this technique	1	0.33%
No radiologist time/interest for protocol development Limited expertise of interpretation No standardized protocol	1	0.33%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Long scan times limit clinical feasibility	1	0.33%
No clinician interest No radiologist time/interest for protocol development Limited personal knowledge of applications/value	1	0.33%
Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility	1	0.33%
No clinician interest Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No clinician interest Limited expertise of interpretation patient population would not benefit from this technique	1	0.33%
No vendor/technical support to develop protocols Long scan times limit clinical feasibility No standardized protocol	1	0.33%
Total	47	15.46%

4 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development Limited personal knowledge of applications/value Limited expertise of interpretation	13	4.28%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols No standardized protocol	4	1.32%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation	2	0.66%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Long scan times limit clinical feasibility	2	0.66%
No clinician interest No radiologist time/interest for protocol development	2	0.66%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%
Total	16	5.26%

7 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	5	1.64%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility patient population would not benefit from this technique No standardized protocol	1	0.33%
Total	6	1.97%

8 responses	n	Percent
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility patient population would not benefit from this technique No standardized protocol	6	1.97%
Total	6	1.97%

Limited personal knowledge of applications/value Long scan times limit clinical feasibility		
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation No standardized protocol	2	0.66%
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation	2	0.66%
No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	2	0.66%
No clinician interest Limited personal knowledge of applications/value Limited expertise of interpretation Long scan times limit clinical feasibility	1	0.33%
No clinician interest No radiologist time/interest for protocol development Long scan times limit clinical feasibility No evidence of benefit	1	0.33%
No clinician interest Limited personal knowledge of applications/value Limited expertise of interpretation No standardized protocol	1	0.33%
No clinician interest No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited personal knowledge of applications/value	1	0.33%
No clinician interest No vendor/technical support to develop protocols Limited personal knowledge of applications/value Long scan times limit clinical feasibility	1	0.33%
No clinician interest No vendor/technical support to develop protocols Limited personal knowledge of applications/value Limited expertise of interpretation	1	0.33%
No clinician interest No radiologist time/interest for protocol development Limited personal knowledge of applications/value No standardized protocol	1	0.33%
No radiologist time/interest for protocol development Limited expertise of interpretation Long scan times limit clinical feasibility No standardized protocol	1	0.33%
No radiologist time/interest for protocol development Limited personal knowledge of applications/value Limited expertise of interpretation	1	0.33%

No standardized protocol		
No radiologist time/interest for protocol development No vendor/technical support to develop protocols Limited expertise of interpretation Long scan times limit clinical feasibility	1	0.33%
Total	39	12.83%