

The Academic Half-Day in Canadian Neurology Residency Programs

Colin Chalk

ABSTRACT: Background: The academic half-day (AHD) appears to have become widespread in Canadian neurology residency programs, but there is little published information about the structure, content, or impact of the AHD. **Methods:** A written questionnaire was sent to the directors of all active Canadian adult and child neurology residency programs. **Results:** All 21 program directors responded. An AHD was operating in 15/15 adult and 5/6 child neurology programs. The AHD typically lasts three hours, and occurs weekly, 10 months per year. Most of the weekly sessions are lectures or seminars, usually led by clinicians, with about 90% resident attendance. Course-like features (required textbook, examinations) are present in many AHDs. There is a wide range of topics, from disease pathophysiology to practice management, with considerable variation between programs. **Conclusions:** Almost all Canadian neurology programs now have an AHD. Academic half-days are broadly similar in content and format across the country, and residents now spend a substantial portion of their training attending the AHD. The impact of the AHD on how residency programs are organized, and on the learning, clinical work, and professional development of residents merits further study.

RÉSUMÉ: La demie-journée académique dans les programmes canadiens de résidence en neurologie. Introduction : La demie-journée académique (DJA) semble devenue courante dans les programmes canadiens de résidence en neurologie. Cependant, il existe peu de renseignements dans la littérature sur la structure, le contenu ou l'impact de la DJA. **Méthodes :** Un questionnaire a été envoyé aux directeurs de tous les programmes canadiens de résidence en neurologie adulte et pédiatrique. **Résultats :** Les directeurs des 21 programmes ont répondu. Une DJA faisait partie des 15 programmes de résidence en neurologie adulte et de 5 des 6 programmes en neurologie pédiatrique. La DJA hebdomadaire était généralement de trois heures, 10 mois par année. La plupart des sessions hebdomadaires sont des conférences ou des séminaires habituellement animés par des cliniciens et 90% des résidents y assistent. Des cours structurés avec manuel et examens font partie de plusieurs DJA. Les sujets sont variés, allant de la physiopathologie à la gestion de pratique et il existe des différences importantes entre les programmes. **Conclusions :** Presque tous les programmes de formation en neurologie au Canada ont une DJA. Ces DJA ont en général un contenu et un format similaires dans tous les programmes et les résidents passent maintenant une partie appréciable de leur entraînement à assister à ces DJA. L'impact de la DJA sur l'organisation des programmes de résidence en neurologie et sur l'apprentissage, le travail clinique et le développement professionnel des résidents mérite qu'on l'étudie davantage.

Can. J. Neurol. Sci. 2004; 31: 511-513

Residency training has undergone important changes in the last two generations, though the central challenge remains the same: optimally synthesizing the acquisition of specialized factual knowledge with the practical experience of working with patients. In the United States, recent legislative moves to limit resident working hours have directed attention to the shortcomings of traditional opportunistic learning¹ and the need to adapt teaching to shortened work hours.² In the last 15 years in Canada, an innovative educational format, the academic half-day (AHD), has developed within many residency programs.³ As generally used, the term "AHD" identifies a teaching event which is (1) regularly scheduled; (2) is directed solely or primarily at residents; and (3) is removed from the sphere of patient care.

Academic half-days now appear to be commonplace in Canadian residency programs, including those in child and adult neurology, yet there are few hard data about the prevalence, content, or structure of the AHD. Essentially nothing is known about the impact of the AHD on trainees, training programs, or institutions. To begin an examination of the AHD, some sense of the approaches taken by different programs is needed. This

report presents the results of a survey of Canadian neurology program directors concerning the structure and content of their AHDs.

METHOD

In June 2002, a questionnaire was mailed to the program directors of all active Canadian adult (n=15) and child (n=6) neurology residency programs about their program's AHD. For the purposes of the survey, an AHD was defined as "a regularly scheduled teaching event for residents other than departmental Grand Rounds or traditional bedside/clinic teaching". The questionnaire and details of responses to individual questions are provided in the Appendix.

From the Department of Neurology and Neurosurgery, Centre for Medical Education, McGill University, Montréal, QC Canada.

RECEIVED DECEMBER 22, 2003. ACCEPTED IN FINAL FORM MARCH 19, 2004.
Reprint requests to: Colin Chalk, Montréal General Hospital, Room L7-313, 1650 Cedar Ave., Montréal, QC H3G 1A4 Canada.

RESULTS

Replies were received from all 21 program directors. All adult neurology and all but one child neurology programs had AHDs, so the results reported below are based on responses from 20 programs (15 adult, 5 child).

The typical neurology AHD occurs once per week, lasts 2.5 hours (range 1 to 4 hours), and runs for 10 months each year (range 9 to 12 months). A few programs use shorter sessions (1 to 1.5 hours) more frequently (2 to 4 times per week).

Attendance at the AHD was considered to be mandatory by 90% of the programs, and in 75% of programs the program director or attending staff member of the residency training committee is present at the AHD. Program director estimates of actual resident attendance at the AHD ranged from 75 to 100% (mean 88%). There was no correlation between actual attendance rates and either the presence of the program director or the stipulation that attendance was obligatory. The two largest adult neurology programs were both at the low end of the attendance range, although several smaller programs had similar rates of attendance.

In almost all programs, AHDs followed either lecture or seminar/discussion formats. Clinicians lead AHD sessions in all programs but one, in which residents lead most sessions (with the program director or surrogate present). Overall, resident-lead AHD sessions occurred in 60% of programs. Basic scientists lead sessions in 45% of programs. About half the programs incorporated events organized by their faculty of medicine postgraduate dean's office into the AHD.

To gain an idea about content, respondents were given a list of seven broad topics (neuroanatomy, the neurological examination, etc) and were asked to indicate those to which at least one quarter of their AHDs time was devoted. Most frequent were pathophysiology of human neurological disease (75% of programs) and therapeutics (65%); least frequent were the neurological examination and cellular and molecular neuroscience (both 40%). An attempt was also made to find what types of more general medical topics might appear in the AHD. Most frequently represented were medical ethics and evidence-based medicine/critical appraisal skills (80% of programs). Epidemiology and biostatistics and the use of medical informatics were each treated in 50% of AHDs. Least frequent were medical malpractice (45%), communication skills (40%), and office and practice management (20%).

In some programs, the AHD has features reminiscent of a structured course. For example, an examination based on material from the AHD is given in one-third of programs. In a larger proportion, some formal structure is supplied by requiring residents to use a standard textbook (45%), a reading list of journal articles (55%), or internet-based resources (50%). Overall, all but one program's AHD has at least one of these course-like characteristics.

DISCUSSION

Based on this survey, it is evident that the AHD has become almost universally present in Canadian neurology training programs. The phenomenon is undoubtedly part of a more widespread trend within residency programs in Canada. For example, a recent survey of general surgery program directors found that a

similar proportion of programs have an AHD (Meterrisian S, unpublished data 2002). A substantial proportion of the daytime hours of neurology training are now devoted to the AHD. If the average program devotes 2.5 hours per week, ten months of the year, to the AHD, the average Canadian neurology resident now spends over 500 hours of training attending the AHD. To place this in perspective, 500 hours is roughly equivalent to a three month out-patient clinical rotation.

Traditional teaching methods (lecture or seminar/discussion) dominate the AHD in all programs, and the bulk of the teaching is by clinicians. Residents teaching each other is common. In just under half the programs, the AHD is a forum for residents to learn from basic scientists. Most AHDs appear to encourage (at least tacitly) self-directed learning, either in the form of required textbooks, reading lists, or a formal examination.

The content of AHDs varies from program to program, presumably reflecting local biases about what is important and the local availability of willing experts on the topics selected. The pathophysiology of neurological disease was, not surprisingly, the most frequently represented category of topic; in a substantial number of programs, basic clinical skills (i.e., the neurological examination) are presented during the AHD. Among topics that are not specifically neurological, medical ethics and critical appraisal skills were treated in the majority of AHDs. Issues related to daily practice, such as office management or the medico legal sphere, appear in only a minority of AHDs.

Several influences have probably contributed to the widespread adoption of the AHD in Canadian residency programs. Undoubtedly a major factor has been criticism about the appropriate balance between service and education in residency training. A properly designed and well-organized AHD can be a concrete demonstration of a program's commitment to education, particularly if residents are freed from clinical duties and pagers while attending the AHD. The intended audience for this demonstration may be the program's own residents, Royal College accreditation visitors, medical students comparing residency programs, or a combination of these three and others. Another factor may have been the concurrent practice of many Canadian universities charging residents tuition fees, leading understandably to an expectation on the part of residents for some formalized tuition in return. A third factor, which is likely to be especially significant in neurology, is the ever-expanding body of scientific knowledge, particularly in molecular biology and genetics, which may be unfamiliar or intimidating to many of a residency program's clinician teachers.

The AHD has been the object of skepticism and criticism, at least informally. Some argue that the whole concept is antithetical to the apprenticeship model of residency training, in which trainees learn by doing. These critics ask: Isn't a resident's time better spent in well-supervised clinics or in-patient settings, rather than regressing to the medical student mode of learning medicine theoretically? Others feel that the AHD amounts to spoon-feeding trainees who ought to be able to learn the material on their own, or that the AHD may be inhibiting cultivation of life-long, self-directed learning. The more cynical view the AHD as a privilege that is all-too-easily abused, with residents choosing to take time off rather than attend the AHD. The present survey argues against the last point, at least, as the average rate

of resident attendance at their program's AHD was just under 90%, with almost half of program directors stating that attendance was 100%. Interestingly, stipulations about attendance at the AHD being obligatory or giving the AHD an official imprimatur by having the program director present do not seem to influence rates of attendance.

In conclusion, in Canadian neurology programs, the AHD has become the norm, it has accrued a sizable chunk of the total hours in the residency, and its content is broadly similar from coast to coast. Whether the AHD is pedagogically sound, whether its impact on residency training is good, bad, or a mixed blessing, or how the AHD affects ongoing professional development, are examples of questions that are beginning to be asked, and which certainly merit further study.

ACKNOWLEDGEMENTS

I thank the program directors for their prompt and enthusiastic responses to the survey, and Adele D'Amato for administrative help.

REFERENCES

- Volpp KGM, Grande D. Residents' suggestions for reducing errors in teaching hospitals. *N Engl J Med* 2003; 348:851-855.
- Weinstein DF. Duty hours for resident physicians – tough choices for teaching hospitals. *N Engl J Med* 2002; 347:1275-1278.
- Tannenbaum DW. New “horizontal” curriculum in family medicine residency. *Can Fam Phys* 1998; 44:1669-1675.

APPENDIX

Neurology Academic Half-Day Questionnaire

Please indicate your university _____
(Responses were received from 15/15 adult and 6/6 child neurology programs)

- Does your neurology residency program have an “academic half-day” or equivalent (i.e., a regularly scheduled teaching event for residents other than departmental Grand Rounds or traditional bedside/clinic teaching)?

YES	Adult: 15/15; Child: 5/6
NO	1 (Child)

If “YES”, please continue with questions 2 to 11.
If “NO”, you are finished (thanks!)
- What are the frequency and length of your academic half-days?

Hours/session	Adult: mean 2.4 (range 1-4); Child: 2.2 (2.5 – 3)
Sessions/month	Adult: mean 6 (2 – 20); Child: 4 (4)
Months/year	Adult: 10.4 (9 – 12); Child: 9.8 (9 – 10)
- On a given day, roughly what proportion of your residents will be present at the academic half-day?

Adult: 87% (75 – 100); Child: 88 (80 – 100)

- Is resident attendance mandatory?

YES	Adult: 14/15; Child: 4/5
NO	Adult: 1/15; Child: 1/5
- Does the program director or a member of your residency training committee attend every session?

YES	Adult: 12/15; Child: 3/5
NO	Adult: 3/15; Child: 2/5
- Does your program have a separate Journal Club in addition to the academic half-day?

YES	Adult: 10/15; Child: 3/5
NO	Adult: 5/15; Child: 2/5
- Which of the following best describes the format of a typical academic half-day session in your program?

Lecture by clinician	Adult: 9/15; Child: 4/5
Lecture by scientist (or a mostly lab-based physician)	Adult: 6/15; Child: 2/5
Lecture by resident	Adult: 4/15; Child: 2/5
Seminar/discussion lead by clinician	Adult: 9/15; Child: 4/5
Seminar/discussion lead by scientist (or a mostly lab-based physician)	Adult: 3/15; Child: 2/5
Seminar/discussion lead by resident	Adult: 8/15; Child: 2/5
None of the above	Adult: 3/15; Child: 0/5

(most respondents chose more than one category)
- Does your academic half-day schedule incorporate events aimed at residents from all specialties (e.g., topics of general interest organized by your Postgraduate Dean's office)?

YES	Adult: 6/15; Child: 3/5
NO	Adult: 9/15; Child: 2/5
- Which of the following broad areas receive emphasis (e.g., at least 25% of the total teaching time) in your academic half-day?

Neuroanatomy	Adult: 9/15; Child: 1/5
The neurological examination	Adult: 7/15; Child: 1/5
Cellular and molecular neuroscience	Adult: 6/15; Child: 2/5
Pathophysiology of human neurological disease	Adult: 11/15; Child: 4/5
Therapeutics	Adult: 11/15; Child: 2/5
Symptoms, signs, and differential diagnosis	Adult: 10/15; Child: 2/5
Laboratory investigation of neurological disease (imaging, clinical neurophysiology, biochemistry, etc)	Adult: 8/15; Child: 2/5
- Which (if any) of the following topics have been addressed in your academic half-day in the last five years? (circle any that apply)

medical ethics	Adult: 12/15; Child: 4/5
medical malpractice	Adult: 6/15; Child: 3/5
office/practice management	Adult: 3/15; Child: 1/5
epidemiology and biostatistics	Adult: 8/15; Child: 2/5
communication skills	Adult: 7/15; Child: 1/5
evidence-based medicine/critical literature appraisal	Adult: 13/15; Child: 3/5
use of medical informatics	Adult: 7/15; Child: 3/5
- Do you require residents to use any of the following reference materials for your academic half-day?

A standard textbook? (which? _____)	
YES	Adult: 8/15; Child: 1/5
NO	Adult: 7/15; Child: 4/5
A reading list of journal articles?	
YES	Adult: 8/15; Child: 3/5
NO	Adult: 7/15; Child: 2/5
Internet-based resources?	
YES	Adult: 7/15; Child: 3/5
NO	Adult: 8/15; Child: 2/5
- Do you have an examination based on your academic half-day sessions?

YES	Adult: 4/15; Child: 3/5
NO	Adult: 11/15; Child: 2/5