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Cover Painting: "Chestnut Prospector Canoe"

1983, by Bill Mason. Oil on paper, 12 × 10 in. "I have always believed that the Canadian canoe is one of the greatest achievements of mankind. There is nothing so aesthetically pleasing and yet so functional and versatile as the canoe. It is as much a part of our land as the rocks and trees and lakes and rivers."



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"Where in the world is rural health?"

David Topps, MB ChB, MRCP, FCFP, CCFP

CJRM 2000;5(3):125.

As in the traditional Chinese curse, we are living in interesting times as things unfold in the world of rural health. With Canada hosting the 4th WONCA World Rural Health Conference, Aug. 15-19, in Calgary, it is timely to review the world situation and our role in taking things forward. Australia leads the world in developing innovative programs and initiatives that help their rural physicians. But the Society of Rural Physicians of Canada can claim its place on the world stage as a strong and effective body in promoting solutions to the problems that beset rural health care workers the world over.

It's clear from previous world conferences that inequities faced by rural populations are remarkably similar. For rich nation and poor the themes of central and urban ignorance of rural issues ring true. The innovative solutions highlighted at these conferences are surprisingly translatable into a wide variety of situations. We rural docs are good fixers and make the best of limited resources.

The 4th Conference has adopted the theme of "Partnerships." This follows from ideas raised at the last 3 rural/remote medicine conferences. With the widening gap between needs and available supply of rural physicians, it is evident that recruiting efforts alone will not suffice. We need more attention on retention! Sustainability of the current workforce is essential, as is finding ways of making more effective use of clinician teamwork. A pre-eminent example of this is trauma triage and transport -- although Canada can boast some of the best equipped and most effective medevac teams in the world, these teams are only truly effective as part of a chain of survival, integrating rural ground teams from the outset.

Integration and teamwork is just as important in education -- a brief taste of rural life is rarely sufficient to influence the career choices of our graduates. Immersion into rural culture and context by basing them in rural centres has been shown to be much more effective. With the increasing feminization of medicine, greater attention to lifestyle issues and caring for the caregivers will be ever more important in attracting graduates to rural practice.

Clear statements from Kuching and other world meetings have underlined the importance of true community involvement in all aspects of health research. Participatory teamwork needs greater emphasis -- this is especially true in Aboriginal health. The emerging pandemic of diabetes in Aboriginal peoples is rife in Canada -- we can lead the world in addressing these problems.

Communication underpins all teamwork. Telecommunications and the Internet have had a huge impact but, despite significant research and investment, it remains to be seen whether the great promise of telehealth will be a panacea, placebo or pariah. Rural involvement in all aspects of telecommunication development is essential to making this work effectively.

The 4th Conference promises to be as dynamic and interesting as its predecessors in addressing all these issues, and more. With 150 presenters from around the world, this conference represents a unique opportunity to share these solutions and put Canada on the world rural health care map.

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«Où diable se trouve la santé rurale?»

David Topps, MB ChB, MRCP, FCFP, CCFP

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Comme le dit la malédiction chinoise bien connue, l'évolution de la situation dans le monde de la santé rurale nous fait vivre une époque intéressante. Le Canada accueille la Quatrième Conférence mondiale sur la santé rurale de la WONCA du 15 au 19 août prochains à Calgary : le moment est propice pour jeter un coup d'œil sur la situation mondiale et sur le rôle que nous jouons pour la faire évoluer. L'Australie est un chef de file mondial de l'élaboration d'initiatives et de programmes innovateurs pour aider les médecins ruraux. La Société de la médecine rurale du Canada peut toutefois revendiquer, sur la scène mondiale, sa place d'organisme solide et efficace qui préconise des solutions aux problèmes qui affligent les travailleurs de la santé en milieu rural dans le monde entier.

Les conférences mondiales précédentes ont démontré clairement que les problèmes, les disparités et les injustices auxquels font face les populations rurales se ressemblent remarquablement. Autant dans les pays riches que dans les pays pauvres, le thème de l'oubli des enjeux ruraux par les centres et les villes est le même partout. Ce qui est remarquable aussi, c'est que les solutions intéressantes et novatrices présentées au cours de ces conférences sont d'une facilité étonnante à traduire dans un vaste éventail de milieux. Les médecins ruraux très débrouillards que nous sommes tirent le maximum de ressources limitées.

La Quatrième Conférence a adopté comme thème les partenariats, à partir des idées soulevées par les trois dernières conférences sur la médecine en milieu rural et éloigné. Comme l'écart se creuse entre les besoins et le bassin disponible de médecins ruraux, il est évident que les efforts de recrutement ne suffiront pas à eux seuls. Il faut accorder davantage d'attention au maintien des effectifs! La viabilité de l'effectif actuel est essentielle, et il est aussi indispensable de trouver des façons d'utiliser plus efficacement le travail d'équipe des cliniciens. On a trouvé un exemple frappant dans le domaine du triage et du transport des traumatisés -- même si le Canada peut revendiquer certaines des équipes d'intervention d'urgence médicale les mieux équipées et les plus efficaces au monde, ces équipes ne sont vraiment efficaces que comme maillon d'une chaîne de survie qui inclut dès le départ les équipes au sol en milieu rural.

L'intégration et le travail d'équipe sont tout aussi importants dans le domaine de l'éducation : un bref aperçu de la vie en milieu rural suffit rarement pour avoir une incidence sur le choix de carrière de nos diplômés. On a démontré qu'une immersion dans la culture et le contexte ruraux par l'affectation de diplômés en milieu rural est beaucoup plus efficace. Avec la féminisation croissante de la médecine, il sera aussi plus important que jamais d'accorder davantage d'attention aux enjeux liés au style de vie et au bien-être des soignants si l'on veut attirer des diplômés vers la médecine rurale.

Des déclarations claires découlant de la conférence de Kuching et d'autres réunions mondiales ont souligné l'importance d'une véritable participation communautaire à tous les aspects de la recherche sur la santé. Il faut mettre beaucoup davantage l'accent sur le travail d'équipe fondé sur la participation -- ce qui est parti-culièrement vrai dans le domaine de la santé des Autochtones, notamment de la pandémie émergente de diabète chez ces collectivités au Canada -- et nous pouvons jouer un rôle de chef de file mondial en nous attaquant à ces problèmes.

Le travail d'équipe repose sur une communication efficace. Les télécommunications et Internet ont eu un impact énorme, mais en dépit de recherches et d'investissements importants, il reste à déterminer si les grandes promesses de la télésanté constitueront une panacée ou un placebo ou encore seront ignorées. Pour que tout fonctionne efficacement, il est essentiel que les milieux ruraux participent à tous les aspects du développement des télécommunications.

La Quatrième Conférence promet d'être tout aussi dynamique et intéressante que celles qui l'ont précédée, car les participants y aborderont toutes ces questions et d'autres encore. Avec 150 conférenciers provenant du monde entier, cet événement constitue une occasion unique de partager ces solutions et de faire connaître le Canada sur la scène mondiale des soins de santé ruraux.

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President's message: Sustainability

David P. O'Neil, MD

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Last year was a little difficult for the SRPC (Society of Rural Physicians of Canada), but we have come through it. By fall we were in a fairly tight financial situation and had to curtail some of our activities to remain solvent. We have had to delay plans to hire an executive director. We continue our extensive lobbying efforts for a National Rural Health Strategy, although there was no specific support for the idea in the February budget.

Membership growth has been strong. We now find ourselves with a comfortable (but unimpressive) bank balance. The organization seems to run better on the enthusiasm of its members than it does on money anyway.

The Federal government is putting money into rural health. There is now the prospect that some of the projects that were stalled for lack of resources may receive some government support.

We will be seeking funding for the following.

- National Rural Medical Forum: a study of rural access to surgical services, in cooperation with the Canadian Association of General Surgeons and the College of Family Physicians of Canada (CFPC)
- Joint position paper on rural anesthesia, in cooperation with the CFPC and the Canadian Anesthesiologists' Society
- Spousal support program
- Study and consensus conference on rural blood banking, in cooperation with the Canadian Blood Services
- Consensus conference on maintenance of competence for GP anesthetists
- Maintenance of competence program for GP anesthesia
- Development of a CME/Locum program, in cooperation with Dalhousie University.

Our research committee has become active and will provide the SRPC with input to the many

rural research project proposals that are anticipated through the new Canadian Institutes of Health Research.

Our emergency committee will examine the Canadian Association of Emergency Physicians triage guidelines and develop a rural-friendly approach to them.

With all this activity and development we cannot lose sight of our mission of achieving sustainable working conditions for rural physicians and equitable health care for rural Canadians. To do so, the SRPC must be sustainable too. We must live within our means. The executive needs adequate administrative support, and our employees need to be compensated competitively. We are a long way from that, but we are getting there.

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Message du président : La viabilité

David P. O'Neil, MD

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L'année dernière a été un peu difficile pour la Société de la médecine rurale du Canada (SMRC), mais nous nous en sommes sortis. À l'automne, la situation financière était plutôt sombre et nous avons dû réduire certaines de nos activités pour demeurer solvables. Nous avons dû reporter nos plans de recrutement d'un directeur général. Nous poursuivons nos efforts intenses de lobbying pour la création d'une stratégie nationale sur la santé rurale, même si le budget de février ne contenait rien pour appuyer cette idée.

L'augmentation de l'effectif a été solide et notre conférence d'avril n'a pas produit de surprises financières. Nous nous retrouvons maintenant avec un solde bancaire confortable (sans toutefois être impressionnant). L'organisation semble mieux fonctionner grâce à l'enthousiasme de ses membres qu'avec de l'argent de toute façon.

Le gouvernement fédéral injecte davantage d'argent dans la santé rurale. Certains des projets qui ont été reportés à cause du manque de ressources pourraient maintenant recevoir un peu d'appui du gouvernement. Nous allons chercher à obtenir du financement pour les projets suivants.

- Forum national sur la médecine rurale : étude sur l'accès aux services chirurgicaux en milieu rural, en collaboration avec l'Association canadienne des chirurgiens généraux et le Collège des médecins de famille du Canada (CMFC).
- Énoncé de position conjoint sur l'anesthésie en milieu rural, en collaboration avec le CFMC et la Société canadienne d'anesthésiologie.
- Programme d'appui aux conjoints.
- Étude et conférence de concertation sur les banques de sang en milieu rural, en collaboration avec la Société canadienne du sang.
- Conférence de concertation sur le maintien de la compétence des OP anesthésistes.
- Programme de maintien de la compétence des OP en anesthésie.
- Élaboration d'un programme d'EMC/de remplaçant en collaboration avec l'Université Dalhousie.

Notre comité de recherche est devenu actif et permettra à la SMRC de contribuer à de nombreuses propositions de projet de recherche sur la médecine rurale que l'on prévoit présenter par l'entremise des instituts de recherche en santé du Canada.

Notre comité de la médecine d'urgence étudiera les lignes directrices sur le triage de l'Association canadienne des médecins d'urgence et élaborera une stratégie favorable aux milieux ruraux en la matière.

Face à toutes ces activités et à tous ces événements, il ne faut pas oublier notre mission, qui est d'instaurer des conditions de travail viables pour les médecins ruraux et l'équité dans les soins de santé offerts aux Canadiens en milieu rural. À cette fin, la SMRC doit être viable elle aussi. Nous devons vivre selon nos moyens. La direction a besoin d'un appui administratif suffisant et il faut verser à nos employés une rémunération concurrentielle. Nous en sommes encore loin, mais nous sommes dans la bonne voie.

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CME needs of rural physicians: How do we compare to our urban colleagues?

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Abstract

Objective: A needs assessment questionnaire was developed and used to identify the perceived continuing medical education (CME) needs of physicians in Newfoundland and Labrador. The survey was conducted between March and June 1997. A total of 867 questionnaires were distributed to all licensed and practising physicians (specialists and family physicians). Three hundred and thirty-nine (339) questionnaires were returned, for a response rate of 39%.

Results: The respondent population was representative of the actual physician population in the province. There were marked differences between the perceived clinical learning needs of urban physicians and those of rural physicians. Rural physicians reported that they participated in a fewer number of formal CME programs, attended a smaller number of pharmaceutical company sponsored events and spent more time in informal self-directed study than urban physicians. They also reported a greater need for advanced clinical skills and emergency medicine training.

Conclusion: The results suggest that several differences between the CME needs of urban and rural physicians continue to exist. The majority of these differences are related to the geographic isolation of rural physicians and their distance from larger urban centres and from the only medical school in the province, which is located in St. John's.

Résumé

Objectif : On a produit un questionnaire d'évaluation des besoins qu'on a utilisé pour définir les besoins perçus en éducation médicale continue (EMC) des médecins de Terre-Neuve et du Labrador. Le sondage a été réalisé entre mars et juin 1997. On a distribué au total 827 questionnaires à tous les médecins autorisés et actifs (spécialistes et médecins de famille). Trois-cent-trente-neuf (339) questionnaires ont été retournés, ce qui donnait un taux de réponse de 39 %.

Résultats : La population des répondants était représentative de la population réelle des médecins de la province. On a constaté des différences marquées entre les besoins perçus en apprentissage clinique chez les médecins urbains par rapport à ceux des médecins ruraux. Les médecins ruraux ont signalé qu'ils avaient participé à un nombre plus restreint de programmes structurés d'EMC, assisté à un nombre plus limité d'activités commanditées par des sociétés pharmaceutiques et consacré plus de temps à des études autodirigées non structurées que les médecins urbains. Ils ont aussi déclaré avoir davantage besoin de formation en techniques cliniques avancées et en médecine d'urgence.

Conclusion : Les résultats indiquent qu'il continue d'exister plusieurs différences entre les besoins en EMC des médecins urbains et ceux des médecins ruraux. La majorité de ces différences sont liées à l'isolement géographique des médecins ruraux et à leur éloignement des grands centres urbains, ainsi que de la seule faculté de médecine de la province, qui se trouve à St. John's.

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Introduction

The practice of medicine is being updated and changed constantly as a result of new clinical findings or research. These changes have a direct impact on medical practitioners, who must be able to maintain their competencies in light of new developments and advances in medical knowledge. Physicians engage in a variety of informal and formal continuing medical education (CME) activities throughout their careers. Several meta review studies of the outcomes and impact of CME programs have suggested that well organized and planned learning activities, based on the collection of information regarding physicians' learning needs, can be effective in

developing and enhancing the knowledge and skills of practitioners. They can also be effective in influencing physicians' behaviour and, to a lesser extent, in having an impact on the health outcomes of patient populations.¹⁻³

An important procedure medical educators use in the design, development, planning and evaluation of CME programs is the needs assessment. "Needs assessment" refers to a process by which the adult learners' opinions, feelings and educational needs are identified or diagnosed.⁴ The use of a needs assessment strategy has been advocated by several authors in the continuing professional education and adult education fields as a critical component of continuing education program planning and the instructional design process.⁵⁻⁹ According to Mann¹⁰ the questionnaire survey remains one of the most common methods for conducting needs assessment in medical education. In the CME literature, several studies have used the questionnaire as an instrument for collecting needs assessment information. For example, data related to CME program direction,^{10,11} discipline-specific learning needs (e.g., recognition and management of mental health problems),¹² AIDS education,¹³ knowledge of environmental or occupational medicine,¹⁴ specialist anesthetists practices,¹⁵ physicians' knowledge of dermatology,¹⁶ and family physicians' perceptions regarding asthma management.¹⁷ A review of these studies suggests that a major element of effective program planning, development and evaluation in CME involves the identification and inclusion of the views of the learner.

The purpose of this paper is to provide an overview of the results of a needs assessment questionnaire that was distributed to all licensed and practising physicians in Newfoundland and Labrador. The questionnaire survey was conducted between March and June 1997. The results provide an interesting account of the experiences and opinions of these physicians and of their involvement in CME programming. Because of the diverse geographic distribution of these physicians and the attempts by Memorial University of Newfoundland's Office of Professional Development to address the CME needs of both urban and rural physicians in an equitable, effective and efficient manner, the results of the questionnaire were analyzed and reported based on the needs of rural and urban physicians. This method of reporting provides a unique perspective of the distinct learning needs that exist between these two physician populations. The findings have guided the Office of Professional Development in its operational and long-term (strategic) planning efforts.

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Methods

A questionnaire was developed and distributed to all licensed and practising physicians (specialists and family physicians) in Newfoundland and Labrador. The items on this survey tool were designed to collect information on the values, opinions, experiences and observations of physicians. Specifically, information was collected on demographics (area of specialty, location

of practice), learning patterns (time spent on learning activities, use of CME resources, use of the Maintenance of Competence Diary [MOCOMP] and use of practice audit), level of participation in formal CME activities, learning needs (clinical skills, professional development and technologic needs), perceptions of the availability of CME programs, and learning method preferences. The majority of questions were close ended, and respondents were required to use Likert- or ranking-type scales. There were several open-ended questions that did allow for elaboration.

A total of 867 questionnaires were distributed. Three hundred and thirty nine (339) were returned, for a response rate of 39%. A majority of the respondents (72.6%) were male and were based in practices with 2 or more practitioners (69.6%). Most of the respondents (42.9%) had graduated from medical school between 1980 and 1989 and were either graduates of Memorial University of Newfoundland's medical school (39.6%) or graduates of universities outside North America (40.5%). A small majority (51.2%) of respondents were family physicians (33.2% of these family physicians were non-College of Family Physicians of Canada [CFPC] certificants and 18.0% were CFPC certificants), and 48.8% were specialists.

The majority of respondents were urban-based physicians who resided in communities with a population greater than 10 000 (62.9%), and 37.1% of respondents were rural-based practitioners who practised in communities with populations of less than 10 000. The majority of urban-based respondents were specialists (66.3%), and the majority of rural-based respondents were non-CFPC certificants (54.2%). The overall demographic characteristics of the respondent sample were analyzed and compared with the actual demographic characteristics of the total physician population for Newfoundland and Labrador during the year 1997. The results of this analysis and comparison revealed that the survey sample was representative of the actual population.

The survey data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS 8.0). Methods of analysis included: a) a cumulative analysis to measure overall responses using basic frequencies and b) cross tabulations to compare responses between family physicians and specialists, physician types, different geographic locations and year of graduation. The cross-tabulation technique proved useful in comparing differences between responses according to various demographic and individual physician characteristics. The variables most commonly used for comparing differences between response groups included practice location and physician type.

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Results

The questionnaire was divided into several parts, which were designed to collect information on specific experiences, opinions and values of physicians as they related to CME. One part

included items regarding physicians' learning patterns. [Table 1](#) presents time (hours per week) spent in informal learning activities (i.e., other than formal CME courses). A majority of CFPC certificants (78.6%) reported spending 0-5 h/wk on informal learning activities. A smaller percentage (55.3%) of non-CFPC certificants reported spending 0-5 h/wk on informal learning activities. These results suggest that a larger percentage of non-CFPC certificants reported spending more than 5 h/wk on informal learning activities.

[Table 2](#) presents time spent in learning activities by practice location (rural v. urban). A larger percentage of rural physicians (64.7%) reported spending less time (0-5 h/wk) in informal learning activities than urban physicians (52.0%). In [Table 3](#) the results of respondents' preferred CME resources are presented. Journal reading ranked as the most preferred CME resource by all physician groups. Medical/university conferences and advanced clinical skills courses were also rated highly by most physician groups. An interesting finding was the difference between urban and rural physicians' reported preference for pharmaceutical company sponsored programs. Rural physicians did not rank this educational resource as highly as did their urban colleagues. Another item in this section asked respondents (specialists) to report their use of MOCOMP. A large majority (78.1%) of respondents reported that they did not use this self-directed method of CME planning and reporting.

The survey also collected information on respondents' levels of participation in CME activities during the 12-month period prior to completion of the survey. [Table 4](#) presents this data. Fifty percent of urban-based CFPC certificants reported participation in 10 or more CME programs. Only 9.7% of rural-based CFPC certificants reported participation in 10 or more programs. Overall, a larger percentage (26.8%) of urban physicians reported participation in 10 or more CME programs than their rural counterparts (15.1%). A large number of both rural CFPC and non-CFPC certificants had only participated in 1-3 CME programs during the specified 12-month period (41.9% and 34.4% respectively). Urban-based CFPC certificants reported a much higher level of participation in CME programs.

Respondents reported their involvement in pharmaceutical company sponsored CME programs during the 12-month period prior to completion of the survey. A greater number of urban-based family physicians attended pharmaceutical company sponsored CME programs than did their rural colleagues. The percentage of rural CFPC and non-CFPC certificants who reported no involvement in pharmaceutical company sponsored CME programs was 38.7% and 20.6% respectively. However, both urban-based CFPC and non-CFPC certificants reported higher levels of attendance at pharmaceutical company sponsored CME programs. These results suggest that pharmaceutical company sponsored programs play a larger role as a CME resource for urban-based family physicians.

Respondents were asked about their CME and professional development needs; they rated their level of need in a number of clinical skill areas, using a Likert-type scale of "no need - high need." They also rated their level of perceived need for education in a variety of management

areas (e.g., time, stress, financial) and their need for information technology CME. They were asked to provide information on their access to computer hardware and the Internet. This information is useful because the proliferation of Web-based education and computer-assisted instructional programs using interactive multimedia CD-ROM technologies continues to expand.

[Table 5](#) presents the results of respondents' needs for CME in various clinical knowledge and skill areas. The results are presented as rankings, by practice location and physician type, and were calculated based on the percentage of respondents who reported "moderate to high need" for each clinical skill area. The rankings for specialists are not presented because of the nature and diversity of specialty practice. The results of the rankings revealed a noticeable difference between the perceived CME needs of urban and rural respondents. Rural physicians reported higher levels of CME need in the areas of advanced clinical skills and emergency medicine than their urban colleagues. Urban physicians reported a greater need for clinical skills training in geriatrics, pharmacology and therapeutics, and pediatrics. The professional development areas that ranked most highly across all physician groups (family physician and specialists) included clinical practice guidelines, professional liability, and management of time, finances and stress, as well as office management.

A large majority of urban and rural physicians reported having access to computers (92.6% and 85.6% respectively), and access to CD-ROM hardware capabilities (75.0% and 73.3% respectively). A smaller number of rural physicians reported access to the Internet (58.4%) and email (54.4%) than their urban colleagues, who reported higher Internet (73.5%) and email access (75.7%). CME needs related to information technology were highest in the areas of basic computer literacy skills, Internet searching, library searching skills, and the use of Internet news groups.

The results from the 1999 CMA's Physician Resource Questionnaire revealed that 63.2% of a sample of Canadian rural physicians use the Internet, and 66.3% of urban physicians reported personal Internet usage.¹⁸ The CMA survey also showed that 73.8% of the rural physician respondents personally use a computer, whereas 79.1% of urban physicians use a computer.

The terms "access" and "usage" may have resulted in different connotations among the respondents in both surveys; however, a comparison of Internet usage results does suggest an increase in the number of physicians who are going online. A future research focus could be to examine the Internet usage patterns of rural physicians, the type of information they are seeking, the value they place on the information sought from Internet sites and their perceptions of the Internet as a means for participating in CME. Ultimately, how can the Internet be used appropriately to provide optimal support to the rural practitioner?

Our survey also collected information on physicians' perceptions of the factors that influence participation in and access to CME. Results revealed that a large percentage of urban and rural physicians felt that "advertising" was a factor with a high degree of impact on access to CME.

Many respondents were simply not aware of the availability of CME programming. A large number of rural physicians reported that distance education and the availability of self-directed learning credit also had a high degree of impact on their access to CME. Respondents were also asked to specify any other factors that contributed to or affected their ability to participate in CME. This was an open-ended question; the most frequently reported factors included lack of time, lack of financial resources, perceived relevance of topic, and reputation of the provider. A majority of both urban and rural physicians reported that weekend (half-day) and evening (3-hour) times were the most convenient for participation in CME programs.

Respondents identified their instructional methods preferences. Conferences, structured courses and seminars rated highly by all physician groups. Rural CFPC certificants rated the CME method of problem-based learning groups highly. Audio conferencing, the Internet and computer-assisted instructional (CAI) methods also rated highly. However, results suggest that traditional methods of CME delivery, including face-to-face group instruction, are still favoured and were rated highly by physicians in Newfoundland and Labrador.

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Discussion

A majority of the findings from this study have strong implications for rural medicine and rural physicians' access to CME opportunities. Results suggest that rural physicians may not have the same access to a variety of CME opportunities nor do they participate in CME to the same extent as their urban counterparts. Rural family medicine is a demanding and challenging form of medical practice. Physicians frequently practise in an isolated environment with inadequate resources and limited or distant specialist backup. This isolation usually necessitates a level of clinical competence beyond that of urban family physicians. Rural physicians are often expected to perform a generalist role in every aspect of clinical practice. Because of this they must develop and maintain a special base of knowledge and technical skills in a variety of clinical areas (e.g., emergency medicine, obstetrics and anesthesia).^{19- 22}

Many of the rural respondents were non-CFPC certificants, and a majority of these physicians identified informal learning activities as an important component of their CME repertoire. However, access to medical libraries, medical journals and other educational resources are limited when practising in a rural or remote area. Similarly, access to the Internet and the clinical databases of the World Wide Web, as evidenced by the results of the survey, is limited when one practises in a rural area. One of the main issues raised by this survey is the role of CME providers in assisting rural physicians in their self-directed learning activities through educational outreach and extension services.

The survey revealed that a majority of rural physicians perceive the amount of time they spend

on CME as inadequate. They spend less time participating in formal CME programs than their urban colleagues. Over one-fourth of the rural-based CFPC certificant respondents had not participated in any university-sponsored CME programs during the 12-month period prior to completing the survey. It is no coincidence that rural physicians experience greater difficulty accessing, and participating in, CME. The very factors that characterize rural medicine also present significant barriers for participating in CME activities. Geographic distance contributes to the cost of attending CME activities and increases the time away from family and practice. Arranging locum coverage for practice and hospital responsibilities is another difficulty. These obstacles are of great concern to rural physicians, who must maintain their skills.

Urban-based practitioners, more so than rural physicians, reported pharmaceutical company sponsored programs as a major resource for CME. This is an interesting finding and warrants future investigation. In particular, the instructional nature and effectiveness of pharmaceutical company sponsored CME programs and industry's role in meeting the CME needs of physicians should be studied. Rural physicians reported a greater need for CME in emergency medicine and advanced clinical skills training. Several studies have confirmed the existence of the unique and varied CME needs among rural physicians.¹⁹⁻²² Some have investigated the differences between the rural and urban physician's CME needs^{20,23,24} and suggest that they are significant.

Many of the studies suggest that the differences are influenced by the nature of medical practice and, in some instances, by the distance of a rural medical practice from major urban areas. The farther rural physicians are from an urban area and large urban health care resources, the more knowledgeable and competent they must be in a greater number of clinical areas. As an example, Hays and colleagues,²⁵ working in Queensland, Australia, developed a "sampling framework" for rural and remote doctors and surveyed 311 of these doctors to compare their training and practice profiles with those of 142 urban doctors. They found that doctors who were more than 80 km (or 1 hour's travel time) from the nearest hospital and support services were more likely to practise a wide range of clinical and procedural skills. In a similar study, Bitt and coworkers²⁶ surveyed 231 full-time Australian general practitioners and found that rural physicians were more likely to be sole practitioners whose access to medical specialists and other support services decreased, relative to population.

Several authors suggest that rural physicians perceive their opportunities for participation in traditional CME activity as inadequate. ²⁰⁻²⁴ Bhatara and colleagues²⁷ suggested that rural physicians' sense of professional isolation, because of a lack of CME opportunities, influences feelings of job dissatisfaction. The result of this gap in access to, and participation in, CME is a lack of peer interaction and educational resources afforded by a large hospital staff and medical school, and an over dependency on journal review and reading as the main method for addressing many CME needs.^{19,20,22,23}

Our results suggest that advertising and the availability of distance education programs appear to have the greatest impact on physicians' access to CME. Weekend (half-day) and evenings (3-

hour) were reported as the best times for offering CME. This suggests that a stronger emphasis needs to be placed on advertising strategies, the methods used for advertising to targeted CME markets, and the distance education methods used to bring CME to rural physicians. Several studies have examined alternative CME delivery methods and the rural physician's satisfaction with these forms of CME. Approaches such as regional workshops and distance education technologies have proven successful.^{19,22,24,28-30} Several studies focused on the use of telecommunications and information technology for rural and remote physicians. Of these technologies, several are well documented in the literature. Audio teleconferencing, video teleconferencing, slow scan imaging, and videotape programs have been used for many years.³¹⁻³⁶

The main limitations of the results of this study relate to the low response rate and the use of a volunteer sample of respondents, the responses of the 339 physicians who returned their questionnaires. The greatest criticism of a volunteer sample is that it is not random and therefore may not be representative of the true responses of the actual population. It is possible that the respondents to this questionnaire were not representative of the actual population of physicians in Newfoundland and Labrador. However, one way to support representativeness is to compare the characteristics of the respondent sample to the actual characteristics of the population. The comparison of the characteristics of the physicians responding to the survey with the characteristics of the general population do not differ significantly on any of the major parameters that could be assessed. This finding lends greater support and confidence in the interpretation of the study findings. The problem of nonrespondents is always vexing and, unfortunately, the survey method may not always represent the attitudes and perceptions of nonrespondents accurately. Therefore, other methods such as focus groups and interviews may be better suited to obtaining the responses of individuals from this group. These qualitative needs assessment methods were used to compliment the results of this questionnaire and together have provided a wealth of information that has directed our program planning, development and evaluation efforts since the completion of this survey.

Partial funding for this needs assessment project was received from the Newfoundland and Labrador Medical Association.

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References

1. Davis D, Haynes RB, Chambers L, Neufield VR, McKibbon A, Tugwell P. The impact of

- CME: a methodological review of the continuing medical education literature. *Eval Health Prof* 1984;7(3):251-83.
2. Davis DA, Thomson MA, Oxman AD, Haynes RB. Evidence for the effectiveness of CME: a review of 50 randomized controlled trials. *JAMA* 1992;268(9):1111-7.
 3. Davis D, Thomson MA, Oxman AD, Haynes RB. Changing physician performance: a systematic review of the effect of continuing medical education strategies. *JAMA* 1995;274(9):700-7.
 4. Ward J. Continuing medical education: part 2. Needs assessment in continuing medical education. *Med J Aust* 1988;148:77-80.
 5. Knowles MS. *The modern practice of adult education: from pedagogy to andragogy*. Chicago: Follett Pub. Company, 1980.
 6. Cervero RM. *Effective continuing education for professionals*. San Francisco: Jossey-Bass Publishers, 1988.
 7. Houle CO. *Continuing learning in the professions*. San Francisco: Jossey-Bass, 1980.
 8. Rossett A. *Training needs assessment*. Englewood Cliffs, NJ: Educational Technology Publications, 1987.
 9. Cookson P. *Program planning for the training and continuing education of adults: North American perspectives*. Malabar (Fla.): Krieger Publishing, 1998.
 10. Mann K. Not another survey! Using questionnaires effectively in needs assessment. *J Cont Educ Health Prof* 1998;18(3):142-9.
 11. Mann KV, Chaytor KM. Help! Is anyone listening? An assessment of learning needs of practicing physicians. *Acad Med* 1992;67(Suppl):54-6.
 12. Kerwick S, Jones R, Mann A, Goldberg D. Mental health training priorities in general practice. *Br J Gen Pract* 1997;47(417):225-7.
 13. Lewis CE, Carlisle D. Continuing medical education about AIDS -- a needs assessment. *West J Med* 1994;161(1):34-8.
 14. Szneke P, Nielsen C, Tolentino N. Connecticut physicians' knowledge and needs assessment of environmentally related health hazards -- a survey. *Conn Med* 1994;58(3):131-5.
 15. Burrows FA, Fear DW. Continuing medical education practices of community-based and university-affiliated anaesthetists in Ontario. *Can J Anaesth* 1993;40(6):480-6.
 16. Ward J, Macfarlane S. Needs assessment in continuing medical education. Its feasibility and value in a seminar about skin cancer for general practitioners. *Med J Aust* 1993;159(1):20-3.
 17. Bauman A, McKenzie DK, Young L, Yoon R. Asthma education: the perceptions of family physicians. *J Asthma* 1990;27(6):385-92.
 18. Martin S. Is everyone as tired as I am? The CMA's physician survey results, 1999. *CMAJ* 1999;161(8):1020-1.
 19. Rourke J. Rural Family Practice Part II: Preferences in continuing medical education. *Can Fam Physician* 1988;34:1035-8.
 20. Woolf CR. Comparison of the perceived CME needs of semirural and urban physicians. *J Cont Educ Health Prof* 1991;11:295-9.
 21. Kamien M, Buttfeld IH. Some solutions to the shortage of general practitioners in rural

- Australia. *Med J Aust* 1990;53:168-71.
22. Gill D, Game D. Continuing medical education needs of rural GPs in South Australia. *Aust Fam Physician* 1994;23(4):663-7.
 23. Lott DR. Obstacles to self-paced learning. *J Cont Educ Health Prof* 1995;15:203-8.
 24. Rosenthal JR, Miller TC. Divergent pediatric CME priorities in a rural area. *J Med Educ* 1982;57:193-4.
 25. Hays RB, Craig ML, Wise AL, Nichols A, Mahoney MD, Adkins PB. A sampling framework for rural and remote doctors. *Aust J Publ Health* 1994;18(3):273-6.
 26. Bitt H, Miles DA, Bridges-Webb CB, Neary S, Charles J, Traynor V. A comparison of country and metropolitan general practice. *Med J Aust* 1993;159 (suppl):S9-64.
 27. Bhatara VS, Fuller WC, O'Connor-Davis L, Misra LK. Improving job satisfaction of rural South Dakota mental health providers through education: a pilot study. *South Dakota J Med* 1996;March:93-6.
 28. Strasser RP. Attitudes of Victorian rural general practitioners to country practice and training. *Aust Fam Physician* 1992;21(7):808-12.
 29. Wilson AL, Wellman LR, Fenton LJ, Witzke D. Development of a correspondence CME course for rural physicians. *J Med Educ* 1982;57:635-7.
 30. Wise AL, Hays RB, Adkins PB, Craig ML, Mahoney MD, Sheehan M, et al. Training for rural general practice. *Med J Aust* 1994;161:314-8.
 31. Black DP, Dunikowski L. Videotapes as continuing medical education for physicians in isolated communities. *Can Fam Physician* 1985;31:1162-3.
 32. Dunn EV, Acton H, Conrath D, Higgins C, Bain H. The use of slow scan video for CME in a remote area. *J Med Educ* 1980;55:493-5.
 33. Lindsay EA, Davis DA, Fallis F, Willison DB, Biggar J. Continuing education through telemedicine for Ontario. *CMAJ* 1987;137:503-6.
 34. McDowell CA, Challis EB, Lockyer JM, White L, Adams K, Parboosingh IJ. Teleconferencing CME programs to rural physicians: the University of Calgary Teleconference Program. *Can Family Physician* 1987;33:1705-8.
 35. Oeffinger JC, Hiebeler L, Sherman T, Gaskill M, Portante T, Polasek J, Litterer K. Innovative desktop learning tools: implications for rural hospitals and physicians. *Ann NY Acad Sci* 1992;670:76-90.
 36. Moore M, Hartman JT. Information technology for rural outreach in West Texas. *Bull Med Libr Assoc* 1992;80(1):44-5.



Accidental drowning: an unusual case

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As a rural coroner I am occasionally called to assess a person who has drowned. While driving to the site, the investigator must consider various modalities of death. Commonly, drowning is associated with drugs, alcohol or hypothermia, and the ability to swim. As well, drownings occur secondary to accidents, such as head and neck injuries associated with diving or body surfing.^{1,2} Less commonly in our culture, the person could have died before being placed into the water.³ The following is an unusual case report of "accidental drowning."

History

On a midsummer's day in 1998, the Ontario Provincial Police (OPP) called to say they had found a missing swimmer who had apparently drowned at a local lake the previous day.⁴ An 18-year-old youth, a visitor to the area, had been jumping with friends off a 7-m rock into deep water. The mechanism of jumping was feet first while trying to turn 360° in a vertical axis. The man did come up after a second jump, established visual contact with others and was seen to be at the edge of the lake about to climb up for another jump. About 10 minutes later, he was noted to be missing from the group. An immediate search of the area was conducted with negative results. The following morning the OPP dive team found the youth in deep water, 6.5 m from the rock face.

The preliminary autopsy revealed features typical of freshwater drowning. There were no external injuries and no alcohol or drugs noted in the blood. As coroner I was faced with explaining to his distraught parents that their son, who was known to be a competent swimmer, had somehow drowned.

I spoke with the pathologist on several occasions regarding the possibility of neck injuries, as I had received a verbal report of a similar death elsewhere in Ontario. Despite the lack of anatomical evidence of neck injury, the case was referred to a neuropathologist for further examination. Over the winter I had 2 further conversations with family members, who were still

not coping well with their son's supposed drowning.

In March 1999, the final autopsy included the following diagnoses: (1) mild hypoxic encephalopathy, (2) microscopic epidural and subdural hematomas and (3) petechial hemorrhages in the upper cervical spinal cord (C5) (Drs. L. Eidus and V. Montpetit, Department of Anatomic Pathology, Ottawa Hospital, General Campus, Ottawa: autopsy report, 1999). These findings were consistent with a spinal cord contusion resulting in drowning.

Again, the family was notified and was greatly relieved, despite the agonizing time frame, to learn that some discrete mechanism could now explain their son's death.

Discussion

Before receiving the final autopsy report, this case had weighed heavily on my mind. I wondered just how simple it was for a person to drown, given the lack of any of the usual precipitating factors. Our hospital librarian ran a MEDLINE search of drownings related to rock jumping and diving. Virtually all reports related either to head entry into shallow water or to body surfing injuries resulting in hyperflexion of the cervical spine.

Thanks to the direction of Dr. Charles H. Tator (Professor and Chairman, Division of Neurosurgery, University of Toronto and President, Think First Foundation of Canada: personal communication, 1999) my research subsequently led me to the SCIWORA syndrome (spinal cord injury without radiographic abnormality).⁵ Pang and Wilberger coined this term in 1982 for children with neurologic injury in the absence of demonstrable fracture or dislocation.⁶ The syndrome was postulated to be due to nondisruptive and self-reducing intersegmental deformation of the excessively malleable juvenile spine. Most of the originally described cases had flexion and extension forces applied to their necks from violent injuries. Most of these injuries were related to motor vehicle trauma, allowing them the benefit of acute care assessment and treatment.

Spinal cord injuries that occur during water recreation and sport activities are the fourth leading cause of spinal cord injury, and nearly 66% of these are related to diving.⁷ This case report is unusual in that the mechanism of injury is unknown. One is left to theorize that the manner in which he jumped into the water (i.e., vertical twisting and possibly jerking forward as his feet entered the water) caused a transient subluxation of the cervical spine resulting in a concussion of the cord at C5.

As a consequence of this neck injury I suspect that he had a period of apnea or loss of consciousness at some point after one of his jumps and although his friends had seen him surface, he subsequently disappeared under the water.

By reporting this case I am promoting professional awareness of SCIWORA syndrome and

public awareness that rock jumping should be well supervised for water depth and underwater obstacles to ensure the well-being of any participants.

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References

1. Ferguson J, Beattie TF. Occult spinal cord injury in traumatized children. *Injury* 1993;23(2):83-4.
2. Branche CM, Sniezek JE, Sattin RW. Water recreation-related spinal injuries: risk factors in natural bodies of water. *Accid Anal Prev* 1991;23(1)13-7.
3. Carter N, Green A, Green MA. Problems in the interpretation of hemorrhage into neck musculature in cases of drowning. *Am J Forensic Med Pathol* 1998;19(3):223-5.
4. Sudden death report. Toronto: Ontario Provincial Police, 1998. File no. 109546-3
5. Pang D, Pollack IF. Spinal cord injury without radiographic abnormality in children -- the SCIWORA syndrome. *J Trauma* 1989;29 (5):654-64.
6. Pang D, Wilberger J. Spinal cord injury without radiographic abnormality in children. *J Neurosurg* 1982;57:114-29.
7. DeVivo MJ, Sekar P. Prevention of spinal cord injuries that occur in swimming pools. *Spinal Cord* 1997;35:509-15.

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Rural patient stories / physician management narratives — 3. Trauma care

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In developing the "Postgraduate Education for Rural Family Practice. Vision and Recommendations for the New Millennium" report,^{1,2} the Working Group felt it was important to illustrate rural family practice with a series of rural patient stories / physician management narratives.¹⁻⁵ These case studies demonstrate the broad range of knowledge, skills and attitudes used by rural family physicians in responding to the needs of their patients. They provide examples of rural maternity care,⁴ mental health care,⁵ trauma care and long-term pediatric genetic disease care. They are based on real-life dramas from diverse rural locations across the country. Certain details of these patient stories / physician management narratives have been altered or based on composite examples to protect the identity of the individuals involved. The third in the series, a case study on trauma care, appears here.

Patient's history

A 52-year-old male was travelling eastbound on a motorcycle when he was struck by a westbound half-ton truck whose driver, blinded by the setting sun, had crossed over the median. An ambulance was summoned from the nearest hospital, 40-km away. A first responder from a nearby village was also called and arrived shortly thereafter with the local doctor. An IV was started on site, and the patient transferred by ambulance with a diagnosis of a probable flail chest, crushes to the left arm and leg and loss of the left foot.

Examination findings

The patient arrived with his left arm and leg in a bulky dressing, the foot in a bag and his IV

running slowly. He was talking normally and was fully alert and aware. Vital signs showed him to be slightly tachycardic with a heart rate of 116, but he was maintaining blood pressure at 135/75 mm Hg. Respiratory rate was 32 breaths/min. SaO_2 on 10 litres/min oxygen was 89%. A flail chest was not noted, but creps were heard over the left chest wall. Air entry was diminished on the left side. Further initial survey did not show any other significant injuries.

Knowledge: ATLS

Skills: Initial survey, assessment of the acute chest

Attitude: On-call physician, and especially the first responder (village) physician, accepts responsibility of managing acute trauma with no local specialist support

Plan: Initial treatment was aimed at obtaining better vascular access and assessing respiratory compromise. Blood gases were drawn by the attending physician while nursing staff attempted further IVs and an x-ray technician was being called in. The patient was maintained on 10 litres/min oxygen by face mask and remained alert. Morphine (5 mg) was given IV for analgesia. Lab was called and blood was drawn for a CBC, group and match and baseline chemistry.

Test results showed a low hemoglobin of only 86 on CBC. This did not seem in keeping with the acuity of the patient's injuries or his clinical condition. A hemoglobin from his ABG was noted to be 136, so the CBC was felt to be in error. It was taken from the same arm as the IV and despite assurances that the IV was off at the time, it must not have been. The ABG did confirm hypoxemia, but there was no acid-base imbalance. X-rays showed fractured ribs on the left side, with a pneumothorax. The upper limb was noted to have severely comminuted fractures of the radius and ulna. The lower limb showed similarly severely comminuted fractures of the tibia and fibula and the foot had been amputated just above the ankle.

Vascular access was difficult to obtain. Nurses and the attending physician were unable to gain another IV site. The GP anesthetist was called in for his expertise in venipuncture. This was finally gained in the right arm. He then placed a chest tube on the left while the attending physician performed a cut down of the saphenous vein at the ankle and cannulated it. The attending physician then placed a chest tube in the right side as prophylaxis against collapse during transfer to the tertiary care centre. Repeat chest x-rays showed acceptable tube placement and a resolution of the pneumothorax. Oxygen saturation improved to 97%.

Knowledge: ATLS, complications of air medevac and their prevention, laboratory interpretation (ABGs, conflicting hematology), x-ray interpretation, local "specialists"

Skills: Chest tube placement, ABGs, venous cut down, leading, maintaining calm in ER

Attitude: Clinical courage, working with a team for best patient outcome

Plan: A tertiary care trauma centre was contacted and transfer arranged. Further stabilization and preparation for transfer included the insertion of a Foley catheter after checking for urethral rupture. The dressings were left intact on the injured arm and leg as there was no sign of any seepage through the dressings and the damage appeared such that nothing could be done to improve the areas prior to transfer. The avulsed foot was rinsed and put on ice, although there

was little hope of reattaching it. Morphine was given as needed for analgesia. A blood transfusion was started after the second litre of crystalloid had been given.

Transfer by air ambulance was complicated by the air ambulance crew being unprepared. They had been told to expect a routine MVA transfer and not told of the chest tubes, IVs, Foley or oxygen. The attending physician went on the medevac while another physician took over emergency room duties until the original doctor returned and resumed duties.

Knowledge: Fracture stabilization, care of amputated body parts

Skills: Effective transfer of pertinent information on patient condition to an unprepared medevac crew

Attitude: Accept risk to self in going on medevac; physician covers on what should have been a day off in order to provide service to community

Plan: Patient was taken to the operating room in the tertiary care centre where he underwent above-elbow and below-knee amputations. He recovered without incident.

This case highlights several issues in rural medicine. There was good communication and bad. The first response team and on-site doctor provided useful information to the receiving hospital. Central dispatch however, misinformed the air ambulance, which, fortunately, had the appropriate equipment on board to effect the patient transfer. Some aircraft used for transfer are not so equipped. Team skills were needed and involved the attending physician and nurses initially, then other local physicians with special skills and finally the ambulance and medevac crews. Invasive testing and line/tube placement were vital to the patient's survival. Most urban family physicians would not ever use or need the majority of these skills, but for a rural family physician, isolated from specialized centres and care, these skills are essential.

The Working Group was a diverse group, comprising members of the College of Family Physicians of Canada (CFPC), the Society of Rural Physicians of Canada (SRPC) and a representative from the Royal College of Physicians and Surgeons of Canada. The group included practising physicians from rural and remote communities across Canada whose practice profiles included special skills and interests in such areas as anesthesia, obstetrics and emergency work. It included physicians involved in teaching both students and residents for rural practice, family medicine residents, rural program coordinators, a postgraduate family medicine program director, and an associate dean of postgraduate medical education. The group was directed "to review the current state of postgraduate education for rural practice in Canada and to outline an appropriate curriculum to prepare new family physicians for the challenges of rural practice."¹⁻³ The report was endorsed by the SRPC in April 1999 and approved by the CFPC Board in May 1999.

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References

1. Working Group on Postgraduate Education for Rural Family Practice. Postgraduate education for rural family practice. Vision and recommendations for the new millennium. Executive Summary. *Can Fam Physician* 1999;45:2698-704.
2. Working Group on Postgraduate Education for Rural Family Practice. Postgraduate education for rural family practice. Vision and recommendations for the new millennium. Full Report. A report of the Working Group on Postgraduate Education for Rural Family Practice. Approved by the College of Family Physicians of Canada Board - May 12, 1999. Available at: www.cfpc.ca/ruralpaperfull.htm (accessed 2000 May 29).
3. Rourke J. What a challenge! [editorial]. *Can Fam Physician* 1999;45:2567-8.
4. Rourke JTB, Goertzen JH, Hatcher SN, Humphries PWH, Iglesias SJ, Mackinnon S, et al. Rural patient stories / rural physician management narratives. Rural maternity care. [Can J Rural Med 2000;5\(1\):21-3.](#)
5. Rourke J, Goertzen JH, Goldsand G, Hatcher SN, Humphries PWH, Iglesias SJ, et al. Rural patient stories / physician management narratives. 2. Mental health care. [Can J Rural Med 2000;5\(2\):80-1.](#)

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The occasional short-arm cast

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This commonly applied cast is suitable for a Colles' fracture or any similar fracture involving the lower radius or ulna.

1. Prepare the necessities ([Fig. 1](#)):
 - 50-cm length of 5-cm stockinette for women, or 50-cm length of 7.5-cm stockinette for men
 - 1 roll of 7.5-cm or 1 roll of 10-cm cast padding
 - 3 rolls of 7.5-cm Gypsona plaster bandage
 - Pail of water at room temperature (20° to 25°C), scissors and shears.



Fig. 1

2. Flex the elbow to 90°. Most people find it easier to work with the thumb pointing at them. Apply the stockinette and double it back over itself at the elbow end for about 7.5 cm ([Fig. 2](#)).



Fig. 2

3. Apply cast padding. Start at the wrist ([Fig. 3](#)) and spiral your way down toward the metacarpals, allowing each turn or layer to overlap previous turn by 50%. Continue spiralling toward the elbow.



Fig. 3

4. For added comfort make a small flange at the elbow end. Fold in half transversely a piece of torn-off cast padding long enough to encircle the upper forearm ([Fig. 4](#)).



Fig. 4

5. Dip a roll of Gypsona plaster bandage into the water for 3-5 seconds, until bubbling ceases. Remove from water and squeeze the roll (gently) twice. For the first plaster roll, start with 3 circumferential turns at the wrist ([Fig. 5](#)), then proceed distally toward the fingers. Wrap roll twice around the hand, "fanning" through the thumb web space to avoid excess plaster build-up ([Fig. 6](#)).



Fig. 5



Fig. 6

6. Extend the plaster only to the distal palmar crease (a common error is to extend the plaster too far down the palm) and then spiral upward, overlapping by 50% each previous turn of the plaster and ending about 5 cm below the condyles of the humerus ([Fig. 7](#)).



Fig. 7

7. Dip the second roll of plaster into the water. For the second plaster roll, start at the elbow end ([Fig. 8](#)), then spiral toward the hand, again applying 3 turns around the wrist for further reinforcement and one final turn through the web space. Wet your hands as necessary and then mould, using the gentle pressure of both palms ([Fig. 9](#)). If the fracture has been displaced you will usually want to mould in some palmar and ulnar deviation.



Fig. 8



Fig. 9

8. Before applying the third plaster roll, fold the proximal and distal ends of the stockinette down over the second roll of plaster ([Fig. 10](#)). Dip the third roll of plaster into the water. Apply the plaster roll at the elbow. Work distally ([Fig. 11](#)) and apply another turn around the hand. Again, be sure the distal palmar crease is exposed.



Fig. 10



Fig. 11

9. Finally, wet and smooth the cast as necessary. Take special care to smooth the cast edges around the thumb and hand to avoid irritation ([Fig. 12](#)).



Fig. 12

10. Step back and admire!

Acknowledgement: We thank Dr. Michael Tanzer, Chief, Department of Orthopedics, Montreal General Hospital, for his kind help in preparing this article.

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Country cardiograms case 17

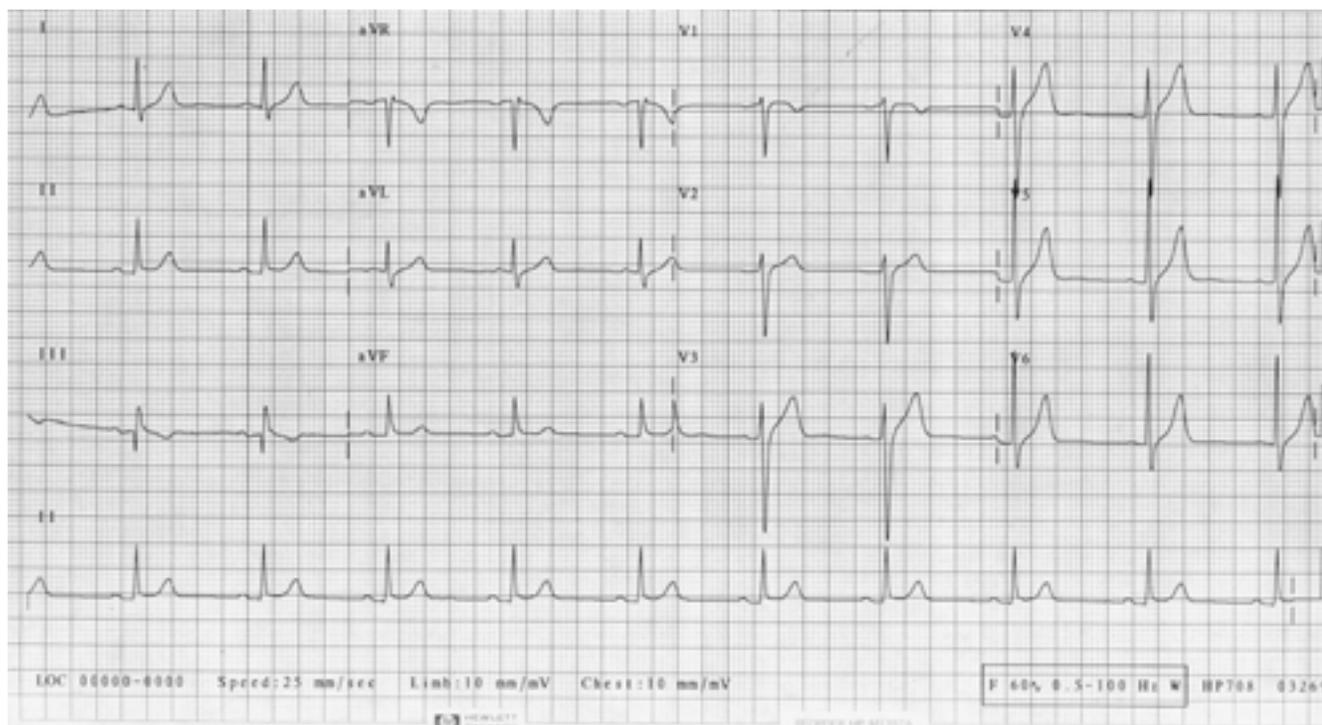
Rudy E. Gasparelli, MD, CCFP

CJRM 2000;5(3):149.

Case presentation

A 38-year-old man presented to the hospital emergency department at 01:00 hours complaining of chest heaviness. This had started in the afternoon after an argument with his foreman. The chest tightness had been intermittent since then, and each episode had lasted about 5 minutes. He had been told 10 years previously, and again in 1997, that he had pericarditis. He had had a stress EKG and stress echocardiogram about 18 months prior to this admission to hospital and had been told that the test results were normal. His blood pressure at the time of presentation was 180/120; he was a nonsmoker with no history of diabetes or high cholesterol. His maternal grandmother had heart disease when in her 60s.

The 12-lead EKG is shown here ([Fig. 1](#)). Fortunately, we had a previous EKG on file for comparison; it was the same.



- Do you think the EKG supports a diagnosis of myocardial infarction?
- What do you think of the previous diagnosis of pericarditis?

For the Answer see [page 164](#).

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"Country cardiograms" is a regular feature of the Canadian Journal of Rural Medicine. In each issue we will present an electrocardiogram and discuss the case in a rural context. Please submit cases to Ms Suzanne Kingsmill, Canadian Journal of Rural Medicine, Box 1086, Shawville QC JOX 2Y0.

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Promoting the image of rural medicine -- a neglected dimension

Sam G. Campbell, MB BCh, CCFP(EM)

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Physicians who successfully serve rural and remote areas are general practitioners with the skills and attitude to potentially manage any degree and volume of illness. They do so with little backup and less than desirable resources. Rural medicine has been touted as the "newest specialty" in medicine.¹ I disagree. A clinical specialty evolves by relinquishing certain skills and parts of a large fund of knowledge in order to focus in more detail on a smaller segment of knowledge. Specialists waive much of their claim to being able to practise the skills they relinquished, their forfeiture being compensated for by their heightened skill in the clinical segment that they have chosen.

As a physician's practice becomes more "rural" he or she becomes, by necessity, more self-reliant and less dependent on other physicians or technology to help care for patients. For this reason, rural medicine represents the remnants of "general practice" in its purest form. The newer "specialty" is urban family practice, whose practitioners have relinquished many skills and much of the knowledge that rural physicians have retained.

Being the principal resource for innumerable diverse medical and social issues can afford the rural physician a level of fulfilment and job satisfaction that is unparalleled. It is with this image that I believe rural medicine should be marketed to potential rural recruits. Perhaps the most vital trait that such a candidate should possess is the enthusiasm for independently and effectively carrying out a broad range of clinical duties.

The image of rural medicine has been tarnished by some of our recruitment efforts. Financial incentives, for example, encourage the image of young doctors "doing time in the salt mines" of rural Canada to set themselves up financially before leaving for the comfort of urban practice. Residents or students exposed to this picture see rural physicians working their fingers to the bone, leaving little time to spend with their families or to enjoy the benefits of rural life. Trainees are reminded that physicians who have left rural practice "did their stint in the bush" in order to (for example) buy a house in the city. This perception creates the image of rural medicine as

something worth doing only for great financial reward.

I believe that to stabilize the base of rural physicians in Canada we need to look and act earlier in the physician production system. We need to build onto the existing benefits of rural practice to attract physicians, rather than try to compensate for the disadvantages.

Much of the literature on rural hospital staffing talks about the paucity of effective rural training programs in medical school.¹⁻⁵ Indeed, it is both unrealistic and unfair to expect young family practitioners to function without the support and technology that we have taught them is essential.² Whereas it is vital to provide future rural physicians with the necessary training at medical school, I am not convinced that "rural" training alone steers physicians in a rural direction. The small proportion of third-year emergency medicine trainees who end up in rural practice attests to this.^{6,7} Easterbrook and associates⁸ described a statistically insignificant association between exposure to rural practice during undergraduate or residency training and choosing to practise in a rural community.

Perhaps it is not the skills that we are teaching to doctors that are most important, but the doctors to whom we are teaching the skills. Certain attributes desirable in rural physicians cannot easily be taught at medical school, and we need to develop ways of identifying physicians or students with these attributes and to foster such attributes in candidates who may be keen but hesitant.

Dr. Peter Newbery, responsible for staffing several small, isolated communities in north western British Columbia for 20 years, has said that the most important characteristic that he looks for when recruiting rural physicians is their attitude. He listed the attributes of keenness, adaptability, flexibility and the ability to work well as a team member. He has found that physicians with the right attitude tend to develop the necessary skills and knowledge whereas those with only skills and knowledge, without the right attitude, don't last. They may make life miserable in the meantime for many members of the existing staff (Personal communication, May 1999).

This does not imply that inadequately trained (but keen) physicians should be unleashed on the rural public in the hope that they will develop the necessary skills. The necessary attitude includes the ability to recognize limitations in skill and knowledge, to safely cope with such limitations appropriately and to develop skills and knowledge in areas that have been identified as lacking.

A network of "scouts" in schools, universities and professional organizations should be enrolled to identify people who show the attributes that would make them thrive in a rural environment ([Table 1](#)). Candidates so identified could be encouraged to enter medical school or, if already there, could be steered in a rural direction.

Table 1. Characteristics to look for in the potential rural physician
1. Broad range of life experiences
2. Broad range of interests
3. Outdoor personality
4. Evidence of adaptability and practicality
5. Interest in teaching (in that teaching is one of the best ways of maintaining CME and clinical confidence when clinical exposure may be limited).
6. Confidence
7. Passionate about the challenge of practising "real" medicine in a holistic sense

Ideally, medical practitioners with personal experience in rural practice should be involved directly in recruitment and selection. Programs with professional nonmedical recruiters or nonphysician community members frequently carry inaccurate perceptions of the real issues faced by physicians in their communities. Recent flyers circulated throughout Canada in an effort to recruit rural physicians to Australia clearly demonstrate the realities of rural practice and appeal to the sense of adventure of potential candidates.^{9,10} Although this approach is better suited to the recruitment of locums than it is to long-term physicians, it may lure practising physicians out of the "rat race." Nevertheless, locums are always a potential source of full-time practitioners ([Table 2](#)).

Table 2. Where to look for potential rural physicians
Schoolchildren and undergraduates*
Medical students*
Residency trained family practitioners
Foreign graduates
Practising family practitioners keen to escape the "rat race"
Retiring physicians
Rotating locums
Rural residents
*Especially those raised in rural communities. ^{4,8}

Although financial compensation for rural practice should be as good as, if not better than, that earned by urban practitioners, incentives designed to entice physicians into rural practice should focus on creating a better lifestyle as the primary attraction. Current working conditions need to be explored with a view to creating circumstances in which physicians would expect to thrive,^{3,4,6} given sustained job satisfaction and emotional and physical health.

One example of how suitable working conditions can be brought about is by employing 3 physicians, on a salary basis, to serve a patient population that could feasibly be managed by 2 doctors. The one-third extra free time would allow each physician to spend time with his or her family, and to develop, practise and teach the skills that set rural practice apart from urban practice. A lifestyle that would be envied by most urban physicians would not go un-noticed by students and residents.

Skills training, financial incentives, clinical support, CME opportunities, spousal concerns and locum availability remain vital factors in determining the ability to recruit and retain rural practitioners. However, the promotion of a positive image of rural practice and the people to whom the vocation is marketed needs to occupy a more central focus in our efforts to recruit and retain rural physicians.

Conclusions

Financial incentives offer only short-term solutions to the recruitment of rural practitioners. The image of rural medicine should be enhanced by taking steps to improve the lifestyles of rural physicians. Recruitment of potential physicians should not be left until family practice residents graduate; 6 potential rural physicians should be sought out and nurtured from the undergraduate level right up to that of experienced non-rural physicians.

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This article has been peer reviewed.

Editor's note: We invite physicians to speak out on issues that concern them. Please send submissions to Suzanne Kingsmill, Managing Editor, CJRM, Box 1086, Shawville QC J0X 2Y0; cjrm@fox.nstn.ca

References

1. Iglesias S, Thompson J. Shared skill sets: a model for the training and accreditation of rural advanced skills. [Can J Rural Med 1998;3\(4\):217-22.](#)
2. Loveridge P. Rural practice: Challenging but endangered? A Nova Scotia perspective. [Can J Rural Med 1996;1\(1\):29-31.](#)
3. Pope ASA, Grams GD, Whiteside CBC, Kazanjian A. Retention of rural physicians: tipping the decision-making scales. [Can J Rural Med 1998;3\(4\):209-16.](#)
4. Society of Rural Physicians of Canada. Recruitment and retention: consensus of the conference participants, Banff 1996. [Can J Rural Med 1997;2\(1\):28-31.](#)

5. Scott GWS. Report of the fact finder on the issue of small/rural hospital emergency department physician service. Toronto: The Ontario Ministry of Health, Ontario Hospital Association, Ontario Medical Association; 1995: Mar 22.
6. Hutten-Czapski P. Rural incentive programs: a failing report card. [Can J Rural Med 1998;3\(4\):242-7.](#)
7. Chaytors RG, Spooner GR, Moores DG, Woodhead-Lyons SC. Postgraduate training positions. Follow-up survey of third-year residents in family practice. *Can Fam Physician* 1999;45:88-91.
8. Easterbrook M, Godwin M, Wilson R, Hodgetts G, Brown G, Pong R, et al. Rural background and clinical rural rotations during medical training: effect on practice location. *CMAJ* 1999;160(8):1159-63.
9. Exciting challenges for general practitioners in rural Western Australia. 1996. Available from Western Australia Centre for Remote and Rural Medicine, 328 Stirling Highway, Claremont, 6010, Western Australia.
10. Escape the winter to Australia! Available from Global Medical Staffing, Ltd., 6915 South 900 East, Salt Lake City, Utah 84047 USA. Available at: www.gmedical.com

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Queen's Rural Medicine Initiative

Sarah Gower; Sarah Simkin

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The Queen's Rural Medicine Initiative (QRMI) was founded in 1997/98 in an attempt to increase undergraduate medical students' exposure to rural medicine. The goals of QRMI are to help medical students learn more about rural medicine and to encourage students to do observerships and electives in rural areas, to see what rural practice is all about. We want to get students interested in rural medicine and excited about the possibility of practising in a rural area!

How we started

When we entered medical school, we were both already interested in living and practising in a rural area and assumed that it would be easy to gain rural experience throughout our training. We soon found out that this was not the case, and saw that if we wanted to get rural experience we needed to organize it ourselves. Students at Queen's had explored this before, but the rural physician contacts had not been maintained and there was no ongoing structure on which to build.

We held an introductory meeting in the fall of 1997 and asked students who attended: "Why do you want to participate in Queen's Rural Medicine Initiative?" Responses included "It would be fun!," "To gain more exposure to a possible career path" and "To get a sense of what living and working in a rural community is like." All of the students were enthusiastic and responsive to the idea of spending time practising medicine in a rural community.

We began by planning for 1st- and 2nd-year students do rural electives in the summer of 1998. The names of rural physicians willing to act as preceptors were collected from various sources. We were soon confident that students would be able to do rural electives almost anywhere in Canada.

To consolidate our resources we created a binder, which sits in our medical library. It contains information about established programs that facilitate rural elective/observership experiences,

names and addresses of rural physicians willing to host students during the summer, evaluation forms from past rural electives and possible sources of funding (the slimmest section of all!).

What we've done

In the two years since starting QRMI, we have encouraged over 70 students to do rural observerships during the summers after first and second years, as well as rural clerkship electives. With virtually no exceptions, the students have had fantastic experiences. Students rave about learning to suture, helping at deliveries and being able to take histories and do physicals. They appreciate getting all kinds of hands-on experience months before they would get it in Kingston. We've heard about friendly communities that made students feel at home and the extensive recreational opportunities of which students have taken full advantage.

In the fall of 1998 we started a "Rural Medicine Lecture Series" to address issues relevant to rural medicine. The first talk was given by Dr. Patty Vann, then President of the Society of Rural Physicians of Canada (SRPC), who spoke about "A day in the life of a rural doc." In other talks, we spoke to first- year students, providing an outline of summer options and encouraging them to spend time in a rural community. We invited 2nd- and 3rd-year students to share their summer experiences in rural medicine, thus inspiring and helping others to plan their rural electives. At another talk, clinical clerks described their experiences doing rural clerkship electives, how it changed their perceptions of rural medicine and, in some cases, how it changed their career plans. The final talk, in 1998-99, was on advanced skills training for family physicians -- a hot topic for rural physicians and something we found students were interested in but didn't know much about. All of these talks had between 20 and 100 attendees.

The QRMI was also involved in lobbying the medical school to provide insurance for students who were planning to be in clinical settings during the summer; this is an essential component of being able to do rural summer electives.

Finally, QRMI acted as a liaison between the Collingwood-based Rural Ontario Medical Program and two groups of 10 Queen's medical students who attended "Rural Medicine Weeks" in June 1998 and August 1999.

What we're currently doing

A lot of work has gone into our Web page, now up and running (<http://meds.queensu.ca/~qrmi>). This will soon replace the binder as our information control centre.

We are formalizing a student rural elective program and securing funding, which up to this point has been conspicuously absent. There is no doubt in our minds that getting medical students into rural areas in first and second year has multiple benefits, both short and long term, for the students and for the communities, and this remains a focus of our activities.

The "Rural Medicine Lecture Series" began its 1999-2000 season with another talk by Dr. Vann, and continued with more talks about summer experiences in rural medicine. We have also distributed an email newsletter, which provides an update on current issues in rural medicine to the Queen's community. We have been working hard this year at forming connections with the SRPC and with students interested in rural medicine at other universities. We were asked to sit on the organizing committee of the 1999 COFM conference (Conference of Ontario Faculties of Medicine) here at Queen's, and helped organize students to present research and be involved in policy discussions. We published a full-colour pamphlet about rural medicine and QRMI for distribution to all of our medical students. Finally, our newest project has been a pilot outreach program to rural high schools, started with our new clerks from the class of 2001.

Thanks

Needless to say, all this has not been accomplished by just two people. Associate Dean Birtwhistle and our Faculty office have been very encouraging, along with Dr. Ruth Wilson. We've received some funding for the actual QRMI costs (not for student electives) from the Queen's Aesculapian Society and Alma Mater Society, and the Dean's Office fully funded one student to attend the 1999 SRPC conference in Newfoundland. The QRMI couldn't have come this far without the interest and enthusiasm of all our classmates. And finally, we'd like to thank all the rural physicians who have taken on a Queen's student -- rural physicians from coast to coast, and beyond!

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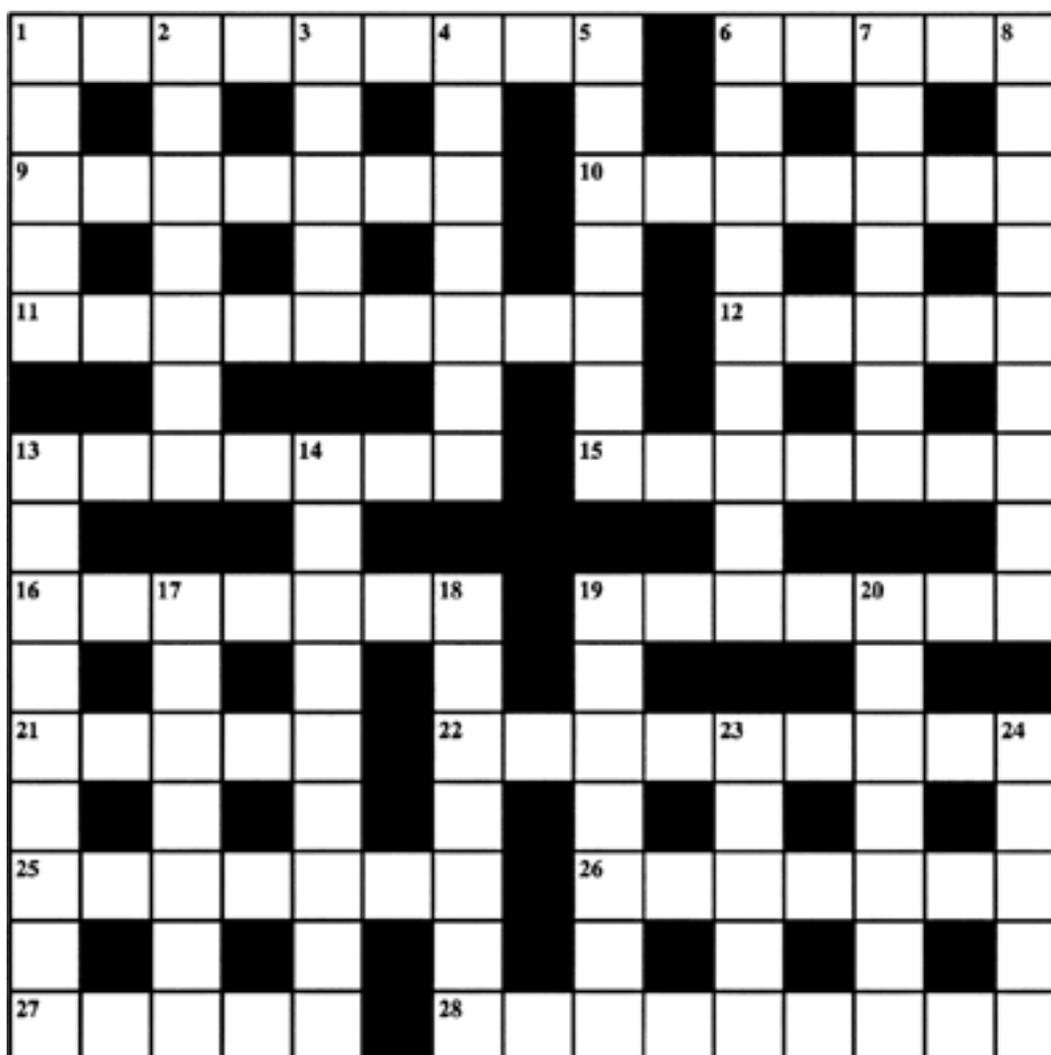
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Cryptic Crossword

Lee Teperman

CJRM 2000;5(3):155.



Across

1. One who lies in a portable bed? (9)
6. Good morning leading to Intensive Care of a sexual nature (5)
- 9 & 10. Clinic is run the wrong way by tax-burdened country (7,7)
11. A loss more fitting for display area (9)
12. Tool, if very abstract, to clear a plane for flight (2-3)
13. Swaddling cloth still borne by the dead (7)
15. Your doctor should fall short? (7)
16. Hundred years in German and out (7)
19. Plot to go out with one daughter and live with another (7)
21. Appropriate roles for the physician (5)
22. Being cryptic with clue and so it's not made easy (9)
25. Positive response by tarts and the upwardly mobile (7)
26. Eluding targeted humour (7)
27. Fear that grips this spaceship (5)
28. They sing, I suspect, to be cleaner (9)

Down

1. Hole in the head of evil American (5)
2. Right united to gain strength as it is done in the country (7)
3. Three-way crippling disease not successfully treated by prunes (5)
4. Air bubble stuffed up man's snout (7)
5. Addict picked up medication, that is picked up where we left off (7)
6. Labour on organised big business (9)
7. Military guidance system's application causing mayhem (7)
8. Company-built home with general store completely stuffed (9)
13. Occult eye suspiciously cast upon blood product (9)
14. Prize fighter is actually swimmer (9)
17. Compass used to measure the hand and one in the bush (7)
18. Old Testament book found by small church written in German (7)
19. Investigating and bringing action against secret police! (7)
20. Organism responsible for, to a degree, cold and troubled ego (7)
23. Spoon and tune and valley talk (5)
24. Occupied time following counter-offensive (5)

Answers to this puzzle, Cryptic Crossword #17, are on [page 160](#).

For instructions on how to tackle a Cryptic Crossword see the June 1996 issue of CJRM, which can be accessed through SRPC's Web site (www.srpc.ca) or CMA's site (www.cma.ca/cjrm), or contact Lee Teperman, Box 893, Shawville QC J0X 2Y0; tel/fax 819 647-3971; bullhits@infonet.ca

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Answers to Cryptic Crossword

Lee Teperman

CJRM 2000;5(3):160.

¹ S	T	² R	E	³ T	C	⁴ H	E	⁵ R		⁶ G	A	⁷ M	I	⁸ C
I		U		R		O		E		R		A		O
⁹ N	U	R	S	I	N	G		¹⁰ S	T	A	T	I	O	N
U		A		M		N		U		N		M		G
¹¹ S	A	L	E	S	R	O	O	M		¹² D	E	I	C	E
		L				S		E		I		N		S
¹³ L	A	Y	E	¹⁴ T	T	E		¹⁵ D	R	O	U	G	H	T
E				I						S				E
¹⁶ U	N	¹⁷ C	A	G	E	¹⁸ D		¹⁹ S	E	E	D	²⁰ B	E	D
C		A		E		E		U				A		
²¹ O	S	L	E	R		²² U	N	S	O	²³ L	A	C	E	²⁴ D
C		I		F		T		S		A		I		W
²⁵ Y	U	P	P	I	E	S		²⁶ I	N	D	U	L	G	E
T		E		S		C		N		L		L		L
²⁷ E	A	R	T	H		²⁸ H	Y	G	I	E	N	I	S	T

The clues to this Cryptic Crossword can be found on [page 155](#).



Meningitis in the Chilcotin

Sterling Haynes, MD

CJRM 2000;5(3):156-7.

Dr. Haynes recalls an event that took place in 1962 at the Cariboo Memorial Hospital in Williams Lake, BC.

The white glare of the policeman's flashlight shone in my eyes as I struggled up from sleep. "What the hell is going on?" I hissed in alarm.

"Sorry, Doc," whispered the giant cop as he dripped melting snow all over the carpet. "You must have knocked your phone off the hook, and the matron at the hospital needs you right away."

"What's the problem?" I asked, as I shielded my eyes from his light. He shifted the light away.

"Sister Robert just arrived from the Alexis Creek reservation with six sick babies. They look pretty bad to me Doc. She drove through some pretty dreadful weather to get here. She said the roads were awful. She slid all the way down Sheep Creek Hill."

I swung my legs off the bed and glanced around for my clothes, amazed that my wife had not awakened. Our new baby must have tired her out more than I realized.

"I'll be right there, Constable, " I said.

As he turned to leave I called softly after him, "Careful not to wake my kids on the way out."

"You be careful too, Doc. It's snowing and slippery as hell out there."

I dressed hurriedly to the thumping sound of my own heart, slung on my Macinaw, buckled my overshoes and tiptoed out of the house so as not to waken my family. The carport was snowed in. My breath frosted the cold dawn and my moustache sprouted icicles as I shovelled my way out.

Lots of time to wonder what awaited me.

Snow crunched under the Ford's tires as I gripped the steering wheel and slipped sideways all the way down the hill as the tire chains rattled uselessly against the chassis and fenders. Finally the lights of the War Memorial Hospital glimmered into view. Somebody had shovelled out the front entrance but the heavy snowfall was already filling it in.

My footprints were the first to pass Sister Robert's battered van, which was covered with snow and frozen slush. She must have been desperate to drive those roads and send the constable to root me out.

A warm blast of air fogged my glasses as I opened the hospital door. "He's coming now," I heard Sister Robert tell the matron before she turned to greet me. She looked tired and drawn, her white wimple accentuating her tanned and lined face. Her grey habit seemed to echo the soberness of the situation. Light from the forty-watt bulb of the emergency room glistened off her gold cross.

"How did you ever make it through in this weather?" I asked her.

"It was bad," she said. " We have thirteen sick babies, Doctor. All under a year. I could only bring the six sickest ones. Veasey is somewhere behind me in his truck and camper. The other seven babies are in the camper with his mother."

"Let's take a look at what we've got," I said in mounting alarm. Thirteen babies!

"I thought it was pneumonia when I first saw them Doctor, but they all got sick at once and some had running ears," she said, fingering her rosary.

"Do you think it could be meningitis?"

"We'll have a real emergency on our hands if it's meningitis," I said.

The first baby I saw was a 10-month-old boy named Ray Johnny.

He was quiet, the fontanelle bulging, his neck stiff and his eardrums red.

"You're a good diagnostician, Sister," I said. "It looks like meningitis. We'll need to do lumbar punctures on all of them. I'll call Donald to come and help. He's the only other doctor around. The other two docs are away."

"And not coming back anytime soon," said matron. "The airport is closed. Nothing flying in or out. If it's meningitis, the kids will have to stay here. I'll get all the available nurses and aides in.

We can use you for as long as you can stay, Sister."

It was a long, grey dawn. The snow piled up, drifting across the silent town. The tree line and lake were invisible. The hospital door opened and Veasey, the seven babies and Donald all blew in at once.

"My God!" Donald's Scottish brogue echoed down the hospital corridors. "I never saw kids as sick as this in Edinburgh. Never saw snow like this in Edinburgh. Wish to hell I was still in Edinburgh."

"We'll manage, Donald, once we get all the cutdowns running. We may have to stay here alternate nights," I said.

"I'm game," said Donald. "We don't have a choice. The blizzard could last a week."

So began the long vigil, with Sister Robert in charge of the native babies, cutdowns, IVs and multiple antibiotics.

After ten days the babies were much better, the snow cleared from the roads and a January thaw set in. The announcer at the Williams Lake radio station issued twice daily bulletins for the parents to come and get their children.

"Jimmy Johnny in Nemiah Valley, come and pick up your son. Johnny at Tasinia Lake Lodge, tell Mac Quilt to leave the fencing job and drive in to get Emily." Sometimes even Sister Robert would get on the radio to plead with parents to come and pick up their kids at the hospital. Mostly, she took them home in her battered van.

I ran into Sister in the hospital just before she returned to the reserve. I thanked her for her invaluable help in caring for the thirteen babies. It had been her astuteness in initially assessing the babies that had saved their lives. But I was also interested in knowing why she had joined the Order in the first place.

"I wanted to help spiritually, and practically as a Grey Nun," she told me. "I've done it for 20 years, Doc. I work best in lonesome places like the Chilcotin. Religiously, perhaps I have been neglectful, but people of the Chilcotin trust and depend on me now."

Two months later Sister Robert was recalled to Montreal for a two-year religious retreat. Rumour had it that her superiors felt she'd lost touch with God and the church.

Thirty-seven years later, I went to the new Cariboo Memorial Hospital to look at the records of those thirteen babies. The records had disappeared. And Sister Robert never returned to the

Chilcotin.

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Literature searches on the Internet

Barrie McCombs, MD, CCFP, CCFP(EM)

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I got my education, out behind the barn, I ain't a-fooling, no-o-o sir-ee-ee. Passed each examination, out behind the barn, but it almost made a wreck out of me" -- sung by Little Jimmy Dickens, circa 1950

The Internet makes it easy to search the MEDLINE medical literature database. This article focuses on the new features of the PubMed Web site.¹ Two useful Canadian Web sites are the Canadian Medical Association's OSLER (Ovid Search: Link to Electronic Resources) service² and the Canadian Library of Family Medicine.³

What is PubMed?

PubMed is a free and easy-to-use Web site sponsored by the US National Library of Medicine (NLM), the sponsors of MEDLINE. Even if you don't use the Internet, you can recommend this Web site to patients as a good source for the latest medical information.

What is MEDLINE?

MEDLINE indexes articles from the world's medical literature dating back to 1966. Users should be aware that not all medical journals are indexed. Information from major journals is available within days or weeks of publication. Information from other journals may take several months to be entered. The database contains the citation (author, title, journal name, issue and publication date) for all articles. It contains an abstract of the article if one was published in the original article. The full text of some articles is now available through links to the publisher's Web site.

Plan your search

You will be more efficient if you first take a moment to plan a search. Write down your question

in 1 or 2 short sentences, then underline the most important words. These will be your search terms. Another trick is to ask yourself what other terms might an author use in a relevant article. You'll find more hints about conducting literature searches at our Medical Information Service Web site.⁴

Rapid access

Lack of time is a common reason for not doing literature searches. There are 3 ways that you can speed up the process. First, use your browser's "bookmark" feature to save the address of the PubMed Web site. Second, have your browser create a "personal toolbar" containing links to PubMed and other frequently used sites. You can also set your browser to display a chosen page as its "home page," whenever the browser program is started.

Help files

The PubMed home page provides 3 different help files, all available as links on the sidebar menu. The "Help" file provides instructions for conducting an efficient search. The "FAQ" file answers frequently asked questions and the "Overview" file describes the MEDLINE database. A detailed manual is available in the "NLM Publications on PubMed" section of the "Help" file. The University of Florida library has created a basic PubMed tutorial.⁵

Using PubMed

The PubMed search engine is fast and easy to use. Just type your search terms into the search window, then click the "Go" button. PubMed understands general terms, such as "heart attack," and translates them to specific MeSH (Medical Subject Heading) terms such as "myocardial infarction." If your question is complex, create a more detailed search using Boolean terms (AND, OR, NOT), "wild card" characters or parentheses. These techniques are described in the "Help" file.

Limits

The "Limits" feature allows you to quickly limit your search to the most relevant articles. You can limit a search to a certain field (such as the article's title or author), to articles with abstracts only, or to review articles only. Other limits include specific age groups, gender or language.

Preview/Index and History

The new Preview/Index feature allows you to review and refine your current search. You can narrow or expand your initial search as needed. To make efficient use of this feature, enter each search term individually, then use the preview feature to combine them. The History feature

provides a list of all searches from your current session.

Clipboard

The new Clipboard feature allows you to select specific references for printing or downloading, even if the references were located with different searches.

Search results

PubMed displays search results with the most recent article listed first. To see more detailed information, such as an abstract, click on the author's name. To print search results, use your browser's print command.

Related articles

A unique and powerful feature of PubMed is the ability to retrieve other articles from MEDLINE that are similar to an article that you have located. These are indicated by a "Related Articles" link in the citation.

Books

PubMed is experimenting with online access to textbooks. At the time of writing, this feature was limited to one textbook of Molecular Biology. The "Book" links appear beside the "Related Articles" link.

Journal browser

This utility allows you to look up journal names and abbreviations rapidly. If the journal provides full-text access to its articles, this is noted. Some journals are known by their initials, rather than by their full name (e.g., CMAJ, BMJ).

MeSH browser

The Medical Subject Headings are NLM's controlled vocabulary and are used for indexing articles and for searching MeSH-indexed databases, including MEDLINE. MeSH terminology provides a consistent way to retrieve information that may use different terminology for the same concepts. The MeSH browser provides a convenient way to select specific terms, and to limit a particular MeSH term to a different subheading such as "therapy" or "diagnosis."

Single citation matcher

This utility finds articles about which you already know certain information, such as the journal name, date and author. This is a fast way to locate a reference cited in an article or textbook.

Clinical queries

This feature is based on the work of "The Evidence-Based Medicine Working Group" at McMaster.⁶ It allows the user to create an "evidence-based" search under one of the broad categories of Therapy, Diagnosis, Etiology or Prognosis. The user can emphasize either sensitivity or specificity.

Order documents

The Loansome Doc program provides an online mechanism for obtaining reprints. In Canada, the Canada Institute for Scientific and Technical Information (CISTI)⁷ coordinates the program. Contact them to find out where the closest participating medical library is.

Consumer health

Several patient-oriented NLM databases are available from the "Consumer Health" link on the main PubMed page.

OSLER (Sponsor: CMA)

Canadian Medical Association (CMA) members may register to use this powerful MEDLINE search engine. It is a very useful site for conducting complex searches. One advantage is that search help is available from the CMA library staff. One disadvantage is that it takes several steps to conduct a simple search. The CMA does not provide a document delivery service.

Canadian Library of Family Medicine (Sponsor: CFPC)

College of Family Physicians of Canada (CFPC) members are entitled to one free literature search per year and to free photocopying of up to 25 articles per year. There is a charge for mailing or faxing articles. Their Web site also provides links to online textbooks and other resources.

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www.ruralnet.ab.ca/medinfo/

References (Web sites)

1. PubMed: www.ncbi.nlm.nih.gov
2. OSLER (CMA): www.cma.ca/osler/
3. Canadian Library of Family Medicine: www.uwo.ca/fammed/clfm/
4. Medical Information Service (University of Calgary): www.ruralnet.ab.ca/medinfo/
5. PubMed Tutorial (University of Florida): www.library.health.ufl.edu/pubmed/
6. Oxman AD, Sackett DL, Guyatt GH. The Evidence-Based Medicine Working Group. Users' guides to the medical literature. I. How to get started. JAMA 1993;270(17):2093-5.
7. CISTI: www.cisti.nrc.ca/cisti/cisti.html

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Correspondance / Letters

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Lettre adressée à la Ministre Madame Pauline Marois
Ministère de la Santé et des services sociaux

Depuis plusieurs décennies, les services de santé en régions rurales ont fait face à plusieurs crises. Un des problèmes récurrents majeur est la pénurie de médecin. Cette pénurie semble s'accroître malgré les nombreuses solutions que les différents gouvernements, le Collège des médecins du Québec et les fédérations des médecins ont tentés d'apporter. En fait, le nombre de praticiens a diminué d'environ 7 % entre 1994 et 1998. La population rurale compte pour 22,4 % de la population générale au Québec mais seulement 17,5 % des médecins généralistes y travaillaient en 1998. Nous pouvons observer une inégalité frappante dans la proportion des médecins pratiquant en région rurale par rapport à ceux et celles pratiquant en région urbaine. Le ratio de médecin par mille individus est nettement inférieur en région rurale.

Cette pénurie restreint l'accès à des services, compromet la qualité de ceux-ci même si plusieurs citoyens pensent le contraire. Les médecins toujours en place dans les régions rurales travaillent de façon acharnée pour maintenir un accès à une meilleure qualité de soins possible. Par contre, l'excès d'heures travaillées, souvent au-delà de 80 heures par semaine, provoquent une fatigue parfois chronique. Cette fatigue est à l'origine de plusieurs erreurs médicales ou amènent les médecins à prendre plusieurs raccourcis lors de prise de décision clinique. Ceci risque de se faire au détriment de la santé du patient.

Plusieurs solutions ont été proposées pour remédier à cette situation mais sans succès convaincants. On a qu'à penser aux primes d'éloignement, à la facturation bonifiée à 115 %, aux bourses d'études et même à l'octroi des permis aux médecins étrangers en échange de quelques

années de services en régions éloignées. Il est évident qu'avec une baisse d'environ 7 %, les objectifs n'ont pas été atteints. La situation n'est guère mieux pour les spécialistes, particulièrement chez les chirurgiens. Par conséquent, des situations de crises telles qu'on a vues en Abitibi, les fermetures d'urgences dans certains centres hospitaliers de l'Outaouais risquent de se multiplier. La situation est pire pour les spécialistes œuvrant en région éloignée là où leur départ peut souvent signifier la fermeture d'un service (ex. chirurgie, anesthésie, obstétrique).

Plusieurs bureaucrates misent beaucoup sur les banques de dépannage. Ceci ne fait qu'ajouter un diachylon sur une hémorragie. Au plus, ça ne permet qu'un bref repos insuffisant chez des médecins souvent surmenés. Cette banque de dépannage n'est qu'une solution à très court terme sans compter les inconvénients qu'elle peut engendrer. Elle ne permet pas d'assurer une continuité adéquate des soins des patients. Plusieurs médecins ont quitté des postes réguliers pour ne faire que du dépannage beaucoup plus avantageux financièrement. Les médias font souvent la manchette avec les conditions et les demandes salariales des médecins. Ces demandes salariales ne reflètent pas la priorité qu'accorde la majorité des médecins ruraux envers la problématique de recrutement. On ne peut pas acheter du temps supplémentaire lorsque les médecins travaillent de 60 à 120 heures par semaine.

L'idée de capitation a déjà circulée. Un tel système est impensable partout où il y a un manque d'effectif médical. Le sacrifice de la santé personnelle et familiale du professionnel n'a aucun prix monétaire.

Par conséquent, nous vous demandons de préciser, Madame la ministre, qu'elles sont vos intentions, vos projets pour corriger le problème qui semble prendre de l'ampleur malgré les différents gouvernements qui se sont succédés. Les études abondent et les comités débordent. Il est évident que nous, les médecins des régions rurales sous desservies, attendons des solutions concrètes et surtout, des résultats. De plus, nous ne cherchons pas les coupables de cette crise.

Plusieurs solutions doivent être envisagées et elles doivent adopter plusieurs chemins innovateurs. Le tout commence par le nombre de postes en médecine et les conditions de leur attribution. La formation médicale doit permettre au futur médecin de développer les aptitudes nécessaires et la polyvalence indispensable lui permettant d'offrir une multitude de service de qualité en région. La fréquence et la durée des stages en région rurale doivent être accrus. La polyvalence en question implique nécessairement l'accès à des formations supplémentaires pour les omnipraticiens dans des domaines critiques tels l'obstétrique, l'anesthésie, l'urgence et la chirurgie. L'accès à une formation en région non-urbaine pour les résidents en spécialité devrait être accru et encouragé.

La qualité des soins passe par un rehaussement technologique diagnostique et thérapeutique. Il est important d'offrir aux professionnels de la santé les moyens nécessaires leur permettant d'offrir des soins de qualité en régions rurales. La mise en place d'un système de télé radiologie et l'accès à des équipements spécialisés tel le CT scan deviennent une nécessité grandissante.

Dans le domaine multidisciplinaire qu'est la santé, les ressources humaines en quantité insuffisante doivent être corrigées dans les plus brefs délais. Là aussi, la mise en place de solutions concrètes s'impose. Bien sûr il est question du nombre nécessaire d'infirmières et d'autres professionnels dans notre système de santé. Le manque d'effectif a un impact sur la qualité des soins. Il faut aussi penser à intégrer d'autres professionnels de la santé récemment reconnus tels les sages femmes aux équipes multidisciplinaires. Y a-t-il lieu de reconsidérer la structure de gestion de notre système de santé? Par exemple, la création des bureaux régionaux rurale ou bien d'un réseau rural de la santé qui gère les moyens mis à sa disposition dans les domaines du recrutement, de la gestion des budgets, etc. Est-il possible de gérer une enveloppe budgétaire non rattachée à celle du milieu urbain? Par contre, la structure et la hiérarchie administrative devront y être beaucoup plus simples, moins lourdes et moins frustrantes. Les services de santé en région rurale doivent être une entité palpable qui n'est pas diluée avec les problèmes que peuvent rencontrer les régions urbaines.

Pour revenir à la rémunération des médecins, elle devra refléter les priorités sociales. Elle doit aussi encourager la polyvalence essentielle au maintien des services indispensables en région éloignée.

Bref, nous demandons un plan précis de comblement des postes disponibles en médecine en région. Nous demandons que les moyens qui permettront d'offrir des soins de qualité à la population rurale soient présentés et appliqués dans les plus brefs délais. La société de médecine rurale, section Québec, et plusieurs médecins co-auteurs de cette lettre sont prêt à seconder le gouvernement dans la mise en pratique des solutions qui vont dans le sens des recommandations de cette lettre.

Nous espérons pouvoir travailler avec vous pour un système de santé efficace.

Sincèrement

Signé

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Asthma in rural areas

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Occasionally a number of articles surface, apparently coincidentally on a similar topic, and a theme emerges. Inevitably, further research turns up even more information, though the reader is cautioned that these excursions into the literature are by no means comprehensive and may be incomplete. That said, here are some newly reported findings on asthma in rural areas.

Relative scarcity of asthma and atopy among rural adolescents raised on a farm. Ernst P, Cormier Y. *Am J Respir Crit Care Med* 2000;161(5):1563-6.

Canadian rural students aged 12-19 who had been raised on a farm were compared to a group "without regular exposure to a farming environment," with respect to symptoms of asthma, results of allergy skin tests and response to bronchoprovocation with methacholine. Investigators found a significantly lower prevalence of asthma, far less airway hyper-responsiveness and many fewer positive skin tests among adolescents raised on a farm than among non-farm teenagers. The differences were especially pronounced in girls.

They felt the most likely explanation for these findings was that the rural farm environment led to exposure, from a very early age, to a varied and complicated blend of irritant, allergenic and infectious agents.

These findings are similar to a number of other recent reports:

Farm environment in childhood prevents the development of allergies. Kilpelainen M, Terho EO, Helenius H, Koskenuvo M. *Clin Exp Allergy* 2000;30(2):201-8.

Austrian children living on a farm have less hay fever, asthma and allergic sensitization. Riedler J, Eber W, Oberfeld G, Schrever M. *Clin Exp Allergy* 2000;30(2):194-200.

Reduced risk of hay fever and asthma among children of farmers. Von Ehrenstein OS, Von Mutius E, Illi S, Baumann L, Bohm O, von Kries R. *Clin Exp Allergy* 2000;30(2):187-93.

Does this translate into less work for rural docs? It seems that this bit of good news is countered to some extent by a continuing occupational risk encountered mainly by rural adults, particularly farmers, and expressed often as morbidity in older age groups.

Asthma management in rural Australia. Watts RW. *Aust J Rural Health* 1999;7(4):249-52.

In this review the author concluded that morbidity from asthma in rural Australia (as expressed by hospital separations) was overall quite similar to urban Australia, although this was the result of over-representation in the over 65 age group and under-representation (similar to the above) in the 0-14 age group.

Health service accessibility and deaths from asthma in 401 local authority districts in England and Wales, 1988-92. Jones AP, Bentham G. *Thorax* Mar 1997;52(3):218-22.

These authors examined the relationship of mortality to distance from acute care facilities. They found that lack of access to a car was significantly associated with mortality and that "there was a tendency for mortality to rise with increasing distance from the hospital, with a relative risk of 1.01 for an increase in distance of one kilometer."

Lastly, a longitudinal study in Sweden suggests that prevalence of asthma among dairy farmers is increasing.

Increasing prevalence of asthma over 12 years among dairy farmers on Gotland, Sweden: storage mites remain dominant allergens. Kronqvist M, Johansson E, Pershagen G, Johansson SG, van Hage-Hamsten M. *Clin Exp Allergy* 1999;29(1):35-41.

These authors conducted a follow-up study of symptoms, working conditions and smoking habits in 1577 Swedish farmers aged 15-65, of whom 1015 were dairy farmers. A representative subgroup (461) underwent a skin-prick test and RAST analysis. The prevalence of asthma had increased from 5.3% to 9.8%, and this was accompanied by a prevalence of storage mite allergy of 6.5%. These mites remain "dominant allergens for developing allergic disease."

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CME needs of rural physicians: How do we compare to our urban colleagues?

Table 1. Respondents' report of time spent in informal learning activities, by physician type and year of graduation

Physician type	Year of graduation	Hours per week, n (%)				Total
		0-5	6-10	11-15	>15	
Family physician, CFPC certificant						
	>1990	17 (85.0)	3 (15.0)			20
	1980-89	15 (75.0)	4 (20.0)	1 (5.0)		20
	1970-79	7 (77.8)	2 (22.2)			9
	<1969	5 (71.4)	2 (28.6)			7
	All	44 (78.6)	11 (19.6)	1 (1.8)		56
Family physician, non-CFPC certificant						
	>1990	11 (57.9)	6 (31.6)	1 (5.3)	1 (5.3)	19
	1980-89	22 (50.0)	18 (40.9)	1 (2.3)	3 (6.8)	44
	1970-79	21 (70.0)	4 (13.3)	2 (6.7)	3 (10.0)	30
	<1969	3 (30.0)	6 (60.0)	1 (10.0)		10
	All	57 (55.3)	34 (33.0)	5 (5.0)	7 (6.7)	103
Specialist						
	>1990	5 (71.4)	1 (14.3)	1 (14.3)		7
	1980-89	31 (43.7)	32 (45.1)	4 (5.6)	4 (5.6)	71
	1970-79	22 (44.0)	19 (38.0)	3 (6.0)	6 (12.0)	50
	<1969	17 (65.4)	6 (23.1)	2 (7.7)	1 (3.8)	26
	All	75 (48.7)	58 (37.7)	10 (6.5)	11 (7.1)	154

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CME needs of rural physicians: How do we compare to our urban colleagues?

Table 2. Respondents' report of time spent in informal learning activities by practice location

Practice location	Hours per week, <i>n</i> (%)				Total
	0-5	6-10	11-15	>15	
Urban	104 (52.0)	74 (37.0)	8 (4.0)	14 (7.0)	200
Rural	77 (64.7)	27 (22.7)	9 (7.6)	6 (5.0)	119
All	181 (56.7)	101 (31.7)	17 (5.3)	20 (6.3)	319

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CME needs of rural physicians: How do we compare to our urban colleagues?

Table 3. Top six reported CME resources, by location and physician type

Rank	Urban			Rural		
	CFPC certificant	Non-CFPC certificant	Specialist	CFPC certificant	Non-CFPC certificant	Specialist
1	Journals	Journals	Journals	Journals	Journals	Journals
2	Colleagues	Books	Books	Colleagues	Books	Books
3	Books	Colleagues	Colleagues	Books	Advanced clinical skills courses	Colleagues
4	Advanced clinical skills course	Pharmaceutical company sponsored programs	Specialty societies	Medical/university conferences	Colleagues	Libraries
5	Medical/university conferences	Advanced clinical skills course	Medical/university conferences	Self-assessment programs	Regional CME tours	Regional CME tours
6	Pharmaceutical company sponsored programs	Medical/university conferences	Libraries	Advanced clinical skills course	University short courses	Specialty societies

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CME needs of rural physicians: How do we compare to our urban colleagues?

Table 4. Respondents' reported participation in CME activities during 12-month period prior to completion of survey

Location, physician type	No. of CME programs, <i>n</i> (%)					Total
	None	1-3	4-6	7-9	≥ 10	
Urban						
Family physician, CFPC certificant		5 (19.2)	7 (26.9)	1 (3.8)	13 (50.0)	26
Family physician, non-CFPC certificant	2 (4.7)	8 (18.6)	9 (20.5)	11 (25.6)	13 (30.2)	43
Specialist	3 (2.2)	64 (47.1)	32 (23.5)	8 (5.9)	29 (21.3)	136
All	5 (2.4)	77 (37.6)	48 (23.4)	20 (9.8)	55 (26.8)	205
Rural						
Family physician, CFPC certificant		13 (41.9)	5 (16.1)	10 (32.3)	3 (9.7)	31
Family physician, non-CFPC certificant	4 (6.3)	22 (34.4)	17 (26.6)	11 (17.2)	10 (15.6)	64
Specialist		6 (25.0)	9 (37.5)	4 (16.7)	5 (20.8)	24
All	4 (3.4)	41 (34.5)	31 (26.1)	25 (21.0)	18 (15.1)	119

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CME needs of rural physicians: How do we compare to our urban colleagues?

Table 5. Top ten reported clinical skills CME needs

Rank	Urban		Rural	
	CFPC certificant	Non-CFPC certificant	CFPC certificant	Non-CFPC certificant
1	Critical appraisal skills	Geriatrics	Advanced trauma life support (ATLS)	ATLS
2	Geriatrics	Cardiovascular disease	Emergency medicine	Advanced cardiac life support (ACLS)
3	Pharmacology and therapeutics	Pharmacology and therapeutics	Geriatrics	Emergency medicine
4	ACLS	ATLS	ACLS	Advanced pediatric life support (APLS)
5	Pediatrics	Pediatrics	Advanced obstetric life support (AOLS)	Cardiovascular disease
6	ATLS	Basic life support	APLS	Advanced neurological life support
7	Dermatology	ACLS	Pharmacology and therapeutics	AOLS
8	Gynecology	AOLS	Advanced neonatal life support	Basic life support
9	Infectious disease	Emergency medicine	Counselling	Physical medicine and rehabilitation
10	Rheumatology	Infectious disease	Pediatrics	Pharmacology and therapeutics

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Country cardiograms case 17: Answer

Rudy E. Gasparelli, MD, CCFP

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Early repolarization

The EKGs showed early repolarization. This is a normal variant, which may be interpreted as myocardial infarction or pericarditis. An initial search for information on this variant did not result in much information. However, a literature search proved to be an interesting exercise.

Early repolarization has been recognized as a variant since 1936.¹ It has a prevalence of about 2% in the adult population² but it has been reported in up to 13% of all patients presenting to the emergency department with chest pain.³ I could find no information to suggest that the EKG changes are actually associated with abnormal or early repolarization. It has been reported that 30% of patients who receive thrombolytics inappropriately have early repolarization.⁴

There are two issues involved in reading this EKG.

1. What are the features of early repolarization? and
2. How can we differentiate it from myocardial infarction and pericarditis?

Characteristics of early repolarization

- notching or slurring of the terminal portion of the QRS wave
- symmetric concordant T waves of large amplitude
- relative temporal stability (when patients were followed over time there was often some variation in the degree of ST segment elevation but generally the change persisted for years).⁵
- most commonly present in the precordial leads but often associated with it is less pronounced ST segment elevation in the limb leads

To differentiate from anterior MI

- the initial part of the ST segment is usually flat or convex upward in AMI
- reciprocal ST depression may be present in AMI but not in early repolarization
- ST segments in early repolarization are usually <2 mm (but have been reported up to 4 mm)⁶

To differentiate from pericarditis

- the ST changes are more widespread in pericarditis
- the T wave is normal in pericarditis
- the ratio of the degree of ST elevation (measured using the PR segment as the baseline) to the height of the T wave is greater than 0.25 in V6 in pericarditis.⁷

Discussion

Note the ST segment elevation in V2-V6, the slurring of the QRS into the ST segment, the prominent T waves and the less marked elevation in II, III and aVF. The ratio of ST segment elevation to T wave height in V6 is well under the 0.25 associated with the diagnosis of pericarditis.

It was the impression of the admitting physician that the patient was not suffering a myocardial infarction at the time of presentation. The changes on the EKG persisted for the next 2 days and the markers for MI were not found to be positive. Also, in retrospect, it seems unlikely that the patient ever had pericarditis. But when confronted with this patient and his EKG, reported by the EKG machine to be "probable early repolarization," it was helpful to have some objective diagnostic criteria to support management decisions and to be able to reassure the patient with a greater degree of confidence.

For the Question, see [page 149](#).

References

1. Shipley RA, Hallaran WR. The four-lead electrocardiogram in 200 normal men and women. *Am Heart J* 1936;11:325-45.
2. Parisi A, Beckmann C, Lancaster M. The spectrum of ST segment elevation in the electrocardiograms of healthy adult men. *J Electrocardiol* 1971;4:136-44.
3. Brady WJ. Electrocardiographic manifestations: benign early repolarization. *J Emerg Med* 1999;17(3):473-8.
4. Sharkey SW, Berger CR, Brunette DD, Henry TD. Impact of the electrocardiogram in the delivery of thrombolytic therapy for acute myocardial infarction. *Am J Cardiol* 1994;73:550-3.

5. Hirofumi K, Phillips J. Long-term evaluation of early repolarization syndrome (normal variant RS-T segment elevation) *Am J Cardiol* 1976;38:157-61.
6. Goldman MJ. RS-T segment elevation in mid- and left precordial leads as a normal variant. *Am Heart J* 1953;46:817-20.
7. Gintzon LE, Laks MM. The differential diagnosis of acute pericarditis from the normal variant electrocardiographic criteria. *Circulation* 1982;65(5):1004-9.

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