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Cover Painting: "Northern Lights"

Coastal Newfoundland
fishing village
Oil on canvas 24 × 18 inches

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Fiddlers on the rural roof

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In our group medical practice, we have met every weekday morning for the past 15 years to discuss interesting cases of the previous day and night. We have recently reflected on the increasing number of roles society now asks its physicians to play.

At times, we feel like Tevye, the main character in the play *Fiddler on the Roof*. The play, set in turn-of-the-century Russia, opens with a man playing a fiddle on a rooftop, as Tevye, the narrator, strides onstage and says: "A Fiddler on the Roof, sounds crazy? But here in our little village of Anatevka, you might say everyone of us is a Fiddler on the Roof, trying to scratch out a pleasant, simple tune, without breaking his neck. . . . It isn't easy!"

During the play, faced with grinding poverty, dull routine, onerous taxes (doubtless many of us can empathize with the villagers here) and pogroms, the good-natured dairyman Tevye can only try to get through one day at a time. At least in the play different actors play the roles of the village dairyman, butcher, constable and tailor, but in today's Medical Village, individual physicians are increasingly being asked to play many roles:

- Gatekeeper. We must order the proper tests and refer the patient to the proper person when necessary.
- Custodian of the public purse. We must ensure that we are not consuming too much of the country's Scarce Medical Resources.
- Bureaucrat. We are expected to ensure that all the forms are filled out properly and the medicare cards are valid.
- Protector of the weak. We are asked to report child abuse, sexual abuse and elder abuse.
- Solver of society's problems. We deal increasingly with, and are expected to "cure," drug abusers, disaffected workers, spouse beaters. . . .
- Father/mother-confessor. We are expected to counsel people as to the proper habits of life,

eating and sexual behaviour.

- Seer. We are expected to assess the health risks to the patient in the future.
- Jurist. In today's climate, we must assess the medicolegal risks of what we are doing and be ready to defend our actions right up to the Supreme Court.

(This list is by no means exhaustive!)

And so it is for us. During the course of our increasingly busy days, most of us do not have time for long discussions about the rational use of scarce health resources, the root causes of alienation and drug abuse in our society, and the complex interplay of genetic and environmental factors in human illness. Rather like the embattled Tevye, we can only try to scratch out a simple, pleasant tune each day without landing flat on our glutei maximi.

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Des violons sur le toit rural

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Dans notre pratique de groupe, nous nous réunissons tous les matins de la semaine depuis 15 ans pour discuter des cas intéressants de la veille. Nous avons discuté récemment du nombre croissant de rôles que la société demande maintenant à ses médecins de jouer.

Nous nous sentons parfois comme Tevye, le principal personnage de la pièce *Un violon sur le toit* (version française de *Fiddler on the Roof*). L'intrigue se déroule en Russie, au tournant du siècle. Le rideau se lève sur un homme qui joue du violon sur un toit au moment où Tevye, le narrateur, entre en scène et déclare: «Un violon sur le toit, ça vous semble fou? Or, dans notre petit village d'Anatevka, on pourrait dire que chacun d'entre nous est un violon sur le toit et essaie de gratouiller une mélodie simple et agréable sans se casser le cou. . . . Ce n'est pas facile!»

Pendant la pièce, face à la misère noire, à une routine abrutissante, à des taxes écrasantes (nous sommes certainement nombreux à comprendre les villageois en l'occurrence) et aux pogroms, Tevye, le laitier à la nature charmante, peut seulement essayer de survivre une journée à la fois. Au moins, dans la pièce, des comédiens différents jouent les rôles du laitier, du boucher, du constable et du tailleur du village. Dans le village médical d'aujourd'hui, on demande toutefois de plus en plus à chaque médecin de jouer de nombreux rôles:

- Répartiteur. Nous devons commander les bons examens et diriger le patient vers la bonne personne au besoin.
- Gardien du Trésor public. Nous devons éviter de consommer trop des ressources médicales rares du pays.
- Scribe de l'État. On nous demande de veiller à ce que toutes les formules soient remplies comme il se doit et que toutes les cartes d'assurance-maladie soient valides.
- Protecteur du faible. On nous demande de signaler les cas de violence faite aux enfants et aux personnes âgées et les cas de violence sexuelle.

- Créateur de solutions aux problèmes de la société. Nous recevons de plus en plus de toxicomanes, de travailleurs mécontents, d'auteurs de violence conjugale, que l'on s'attend à nous voir «traiter».
- Père ou mère confesseur. Nous devons conseiller aux gens de bonnes habitudes de vie, alimentaires et sexuelles.
- Visionnaire. On nous demande d'évaluer les risques futurs pour la santé du patient.
- Juriste. Dans le contexte d'aujourd'hui, nous devons évaluer les risques médico-légaux de nos actes et être prêts à nous défendre jusqu'en Cour suprême.

(Cette liste est loin d'être exhaustive!)

Et c'est là notre sort à tous. Au cours de nos journées incroyablement chargées, la plupart d'entre nous n'ont pas le temps de discourir longuement au sujet de l'utilisation rationnelle des maigres ressources de la santé, des causes profondes de l'aliénation et de la toxicomanie dans la société, et des liens complexes entre les facteurs génétiques et environnementaux dans la maladie chez les êtres humains. Nous devons plutôt faire comme Tevye, notre ami assiégé: essayer simplement de gratter une balade agréable et simple tous les jours sans nous écraser sur nos glutei maximi.

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President's message

Patricia Vann, MD
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President, Society of Rural Physicians of Canada

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This spring the Society of Rural Physicians of Canada put on its annual Rural and Remote Medicine Conference in St. John's, Nfld. Our aim of high-quality CME designed for rural physicians by rural physicians was achieved because of the hard work of Dr. Con O'Maonaigh and his planning committee. At our AGM, the incredible efforts of Mount Forest's Ken Babey in the development of the SRPC were acknowledged. The SRPC has grown from a group of 6 Mount Forest doctors to an organization with over 800 members! We're well on our way to a goal of 1000 members by 2000. Spread the word!

The Special Day on Advanced Skills Training for Rural Family Physicians was co-hosted by the College of Family Physicians of Canada (CFPC) and the SRPC. More than 120 rural physicians, educators, specialists and representatives from many medical organizations debated the need for advanced skills training for rural doctors in areas such as anesthesia, advanced maternity skills and surgery (see also [page 160](#)) How best to train family physicians to deliver these services and to maintain their competence was also discussed. Many recommendations ensued and focussed on the need to develop new accredited programs in these areas and pinpoint ways to enhance and accredit the very few programs that currently exist.

A proposed new Rural Family Practice Curriculum Paper was also presented by the CFPC rural working committee chaired by Jim Rourke. The paper was a cooperative effort by rural family physicians representing both the CFPC and the SRPC. It is fully supported by the SRPC and the CFPC board of directors. If the report's recommendations are implemented, it will lead to more rural physicians who have the clinical confidence and skills required to practise in rural Canada. We hope that as more physicians feel confident in practising in rural areas, our work will be shared more easily with new graduates. We will then have well-trained new graduates and better-rested physicians in rural Canada.

Students and residents interested in careers in rural Canada were very active at this year's meeting. Through the SRPC they will be developing links with each other via teleconferences and discussion groups and will liaise with our regional Society physicians, who will act as resources for them. These groups hope to address medical school fees and promote increasing the rural curriculum and elective opportunities. The energy of these students and residents is incredible and bodes well for the future of rural medicine.

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Message de la présidente

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Présidente, Société de la médecine rurale du Canada

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Ce printemps, la Société de la médecine rurale du Canada a organisé sa Conférence annuelle sur la médecine en région rurale ou éloignée à St. John's (Terre-Neuve). Si nous avons atteint notre but, soit une EMC de grande qualité conçue pour des médecins ruraux par des médecins ruraux, c'est grâce au travail du Dr Con O'Maonaigh et de son comité d'organisation, qui n'ont pas ménagé leurs efforts. Au cours de l'AGA, on a reconnu les efforts incroyables que Ken Babey, de Mount Forest, a consacrés à l'évolution de la SMRC. Le groupe fondateur de six médecins de Mount Forest qui constituait au début la SMRC est devenu une organisation de plus de 800 membres! Nous nous rapprochons de notre but, qui est de compter 1000 membres en l'an 2000. Faites passer le message!

La Journée spéciale sur la formation spécialisée avancée pour les médecins de famille ruraux a été offerte conjointement par le Collège des médecins de famille du Canada (CMFC) et la SMRC. Plus de 120 médecins ruraux, éducateurs, spécialistes et représentants de nombreuses organisations médicales ont débattu du besoin de formation spécialisée poussée pour les médecins ruraux dans des domaines comme l'anesthésie, les techniques avancées en maternité et la chirurgie (voir aussi [page 160](#)). L'assemblée s'est aussi penchée sur la meilleure façon de former des médecins de famille pour qu'ils offrent ces services et maintiennent leurs compétences. Les délibérations ont débouché sur de nombreuses recommandations portant avant tout sur le besoin de créer de nouveaux programmes agréés dans ce domaine et précisant des façons d'améliorer les rares programmes qui existent actuellement et d'en obtenir l'agrément.

Le comité de travail sur la médecine rurale du CMFC, présidé par Jim Rourke, a aussi présenté un projet de nouveau programme d'études sur la médecine familiale en milieu rural. La communication a été le fruit d'un effort de collaboration de médecins de famille ruraux représentant à la fois le CMFC et la SMRC. Le conseil d'administration de la SMRC et celui du CMFC appuient ce document sans réserve. Si les recommandations contenues dans le rapport

sont mises en œuvre, il y aura plus de médecins ruraux qui auront la confiance clinique et les compétences spécialisées nécessaires pour exercer en milieu rural au Canada. Nous espérons qu'à mesure que le nombre de ces médecins augmentera, nous pourrons plus facilement partager notre charge de travail avec de nouveaux diplômés. Nous aurons alors à la fois de nouveaux diplômés qui ont reçu une solide formation et des médecins plus reposés en milieu rural au Canada.

Les étudiants et les résidents intéressés à faire carrière en milieu rural au Canada ont été très actifs au cours de l'assemblée de cette année. Par l'entremise de la SMRC, ils établiront des liens entre eux en organisant des téléconférences et des groupes de réflexion et assureront la liaison avec nos médecins régionaux de la Société, qui leur serviront de personne-ressource. Ces groupes espèrent aborder des questions comme les frais de scolarité dans les facultés de médecine et promouvoir l'augmentation des aspects ruraux du programme d'études et des stages au choix. Ces étudiants et résidents ont une énergie incroyable qui augure bien pour l'avenir de la médecine rurale.

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Physician:population ratios in British Columbia

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Abstract

Objective: To determine the physician:population ratio in British Columbia's health regions and in isolated rural communities in British Columbia.

Design: Analysis of data from the Medical Services Plan and data from the British Columbia 1996 census.

Results: The average family physician:population ratio across British Columbia is 1.06:1000. This ratio varies from 0.76:1000 (Peace Liard region) to 1.65:1000 (Vancouver region). The average total physician (family physician plus specialist physician):population ratio across British Columbia is 1.86:1000. This ratio varies from 0.91:1000 (Peace Liard region) to 3.73:1000 (Vancouver region). Family physician:population ratios were calculated for 69 rural communities. Family physician:population ratios vary from 3.27:1000 (Alert Bay) to 0.36:1000

(Salmo). There were 2 communities (Madeira Park and Valemount) listed as having no physician. Sixty-five percent of these rural communities have family physician:population ratios that are less than the British Columbian average, and 42% have family physician:population ratios of 0.80 or less.

Conclusions: The physician:population ratios in all northern health regions and in many rural communities throughout British Columbia, are below the provincial average. This may contribute to the issue of "burnout" commonly cited among physicians working in rural areas.

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Résumé

Objectif : Déterminer le ratio médecin:habitants dans les régions sanitaires de la Colombie-Britannique et dans des communautés rurales isolées de la province.

Conception : Analyse de données provenant du régime de services médicaux et de données tirées du recensement de 1996 de la Colombie-Britannique.

Résultats : Le ratio moyen médecin de famille:habitants en Colombie-Britannique est de 1,06:1000. Ce ratio varie de 0,76:1000 (région de Peace Liard) à 1,65:1000 (région de Vancouver). Le ratio total moyen médecin (médecins de famille et spécialistes):habitants en Colombie-Britannique est de 1,86:1000. Ce ratio varie de 0,91:1000 (région de Peace Liard) à 3,73:1000 (région de Vancouver). On a calculé les ratios médecin de famille:habitants pour 69 communautés rurales. Ils s'échelonnent de 3,27:1000 (AlertBay) à 0,36:1000 (Salmo). Deux localités (Madeira Park et Valemount) n'avaient pas de médecin. Dans 65 % de ces localités rurales, le ratio médecin de famille:habitants est inférieur à la moyenne de la Colombie-Britannique et 42 % ont des ratios médecin de famille:habitants de 0,80 ou moins.

Conclusions : Les ratios médecin:habitants sont inférieurs à la moyenne provinciale dans toutes les régions de santé du Nord et dans beaucoup de localités rurales de la Colombie-Britannique, ce qui peut contribuer aux problèmes «d'épuisement» constaté chez les médecins des régions rurales.

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On Jan. 31, 1998, 22 doctors in 5 rural communities in northern British Columbia (Burns Lake, Fraser Lake, Vanderhoof, Fort St. James and Mackenzie) resigned their hospital privileges to protest exhausting on-call schedules. Physicians in Houston, Chetwynd and other isolated rural

communities throughout British Columbia soon followed suit with similar job action. At the peak of the dispute as many as 62 doctors from 21 communities withdrew at least partial services.¹ The doctors in these rural communities argued that clinic work plus on-call requirements had become so onerous that they were becoming exhausted and were facing "burn out." One measure of work load is the physician:population ratio, which is an index commonly used to compare the number of doctors to the local population. Traditionally it has been used as an important factor in health resource planning.^{2,3}

This study looks at the physician:population ratio in British Columbia and how it varies across the province. We were particularly interested in determining the ratios in northern and isolated rural communities. If these ratios are less than those seen in urban communities or less than the provincial average it could be argued that one contributing factor to rural physician "burn out" is an undersupply of physicians in rural areas.

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Methods

Physician:population ratios for the 20 health regions in British Columbia were determined using data obtained from the British Columbia Medical Services Plan.⁴ The data include June 1997 population estimates, physician count (specialists and family physicians) and calculated full-time equivalent physician counts, for each of the 20 health regions and are summarized in [Table 1](#).

Full-time equivalent (FTE) counts were calculated according to the Health Canada FTE definition, rounded to the second decimal.⁴ It is defined by (a) grouping the physicians into categories by similar styles of practice; (b) totalling the fee-for-service payments received by each physician; (c) determining the 40th and 60th percentiles of practitioner payment totals within each style of practice category; (d) associating FTE = 1 with every practitioner whose total payments fall between the 40th and 60th percentiles; (e) calculating FTE < 1 for all practitioners with total payments below the 40th percentile as follows: $FTE = (\text{practitioner payment total}) / (40\text{th percentile practitioner payment total})$; (f) calculating FTE > 1 for all practitioners with total payments above the 60th percentile, as follows: let $A = (\text{practitioner payment total}) / (60\text{th percentile practitioner payment total})$, then $FTE = 1 + \ln(A)$, where \ln is the natural logarithm; (g) specialists practising in radiology, pathology, medical microbiology and nuclear medicine are assigned FTE = 1.

The formula assumes that 1 FTE = \$129 841.01 of earnings during the 1997 calendar year. Family physicians earning in excess of \$129 841.01 are counted as 1 FTE. The incomes of physicians earning less than \$129 841.01 who practise in the same community are combined to determine the number of FTEs. For example, in a community where there are 3 physicians — earning \$260 000, \$50 000 and \$80 000 respectively — there would be 3 physicians counted but

they would represent only 2 FTEs.

Absolute number of specialists for each health region can be calculated from Table 1 by subtracting the number of family physicians from the corresponding total number of physicians in that health region. Specialist:population ratios were calculated from the data by subtracting the family physician:population ratio from the total physician:population ratio for each corresponding health region. Physician numbers and FTE counts for rural communities were also obtained from the British Columbia Medical Services Plan (MSP).⁴ The rural communities studied were those communities that qualify for the British Columbia Northern Isolation Allowance (NIA). The MSP has developed a rurality index score, which it uses to determine whether a community is northern and/or isolated enough to qualify for the NIA (Elizabeth Gillies, Cochair, Medical Services Plan. Northern Isolation Allowance Program. Personal communication, April 1999) This scoring system is similar to that proposed by Leduc.⁵

Population estimates for NIA communities were obtained from the 1996 British Columbia census via the Internet, www.bcstats.gov.bc.ca/data/cen96, and corresponding census maps from Statistics Canada. We were unable to calculate population estimates for 6 of the smallest NIA communities: Bowen Island, Bridge Lake, Denman Island, Hornby Island, Quadra Island and Winlaw.

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Results

The average family physician:population ratio across British Columbia is 1.06:1000 ([Table 2](#)). The ratio varies from 0.76:1000 (Peace Liard region) to 1.65:1000 (Vancouver region). The average total physician (family physicians plus specialist physicians):population ratio across British Columbia is 1.86. This ratio varies from 0.91:1000 (Peace Liard region) to 3.73:1000 (Vancouver). The average family physician:specialist ratio across British Columbia is 1.0:0.75 ([Table 3](#)).

The ratio varies from a high of 1.0:1.26 in the Vancouver health region to a low of 1.0: 0.20 in the Peace Liard health region. Expressing the family physician:population ratio and family physician:specialist ratio in terms of FTEs does not change the results significantly.

The estimated population for 69 NIA communities are summarized in [Table 4](#). Family physician:population ratios for these NIA communities vary from 3.27:1000 (Alert Bay) to 0.36:1000 (Salmo) (Table 4). There were 2 communities (Madeira Park and Valemout) listed as having no physician. Including these 2 communities, 65% or 45 of these rural communities have family physician:population ratios that are less than the British Columbia average, and 42% or 29

of these rural communities have family physician:population ratios of 0.80 or less.

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Discussion

Our study shows that in British Columbia the family physician:population ratio varies widely among health region areas, ranging from 0.76:1000 (Peace Liard region) to 1.65:1000 (Vancouver region). The communities involved in the recent job action are in health regions having family physician:population ratios ranging from 0.76:1000 to 0.99:1000, and total physician:population ratios ranging from 0.91:1000 to 1.33:1000.¹ The 7 northern British Columbia rural communities where doctors resigned hospital privileges in the spring of 1998, have family physician:population ratios ranging from 0.54:1000 to 0.91:1000 (mean value 0.71:1000).

We speculate that the relatively low family physician:population ratios seen in NIA communities are contributing to the high rate of "burnout" reported by family physicians working in rural areas. The problem appears to be compounded by the fact that there is also a relative shortage of specialists working in these areas. Gruelling call schedules, absence of immediate specialist back-up, absence of modern technology and difficulty obtaining locums also contribute to rural physician burnout; however, these factors are not necessarily reflected in high physician:population ratios, which may be misleading. For example, an area with a ratio of 1.3:1000 may, on paper, be seen to be in good shape when in reality the doctors serving the area may be on-call "1-in-3."

It is important to remember that the physician:population ratio is just one measure of population need and physician supply. Over the years the ratio has been used traditionally in health resource planning despite the fact that no one has yet defined the ideal physician:population ratio. There are problems associated with using the physician:population ratio to determine how many doctors are needed. The assumption that physicians in a community are used only by the residents in that community is not always valid. People can, and do, travel to other communities to access medical care. Some physicians travel to other communities to provide medical care. Such behaviour becomes a bigger issue for smaller communities — especially if that smaller community is located relatively close to a larger community. Geographic, economic and demographic disparities dictate that an ideal ratio for one region may not meet the needs of another. In some of the larger NIA communities, physicians functioning as specialists in areas such as obstetrics, anesthesiology and urology, who are not recognized officially by the College of Physicians and Surgeons are counted as general practitioners/family physicians by the government. This gives a misleading impression of the number of general practitioners for those communities. Despite these limitations, physician:population ratios are still considered useful as "comparative norms" especially in regard to relative access to health care services.^{2,3} Presumably areas with a low

physician:population ratio could benefit from additional physicians.

Studies in Ontario and Quebec have also looked at physician:population ratios and have concluded that the evidence did not support the contention that patients in remote regions were seriously under-serviced compared with more urban areas.^{2,6} Similar conclusions could perhaps be drawn from our data. For example, family physician:population ratios (Table 2) and total physician:population ratios (Table 3) in the lower mainland health regions of Fraser Valley, South Fraser Valley and Burnaby are among the lowest in the province. However, in terms of the total number of family physicians and the total number of specialists (Table 1) these health regions rank among the highest in the province. A high density of physicians would allow for a relatively infrequent on-call schedule as compared to that in rural areas. The high profile of the on-call issue in the recent northern doctors' dispute testifies to its importance in the work-day experience of physicians. Thus, one should consider physician:population ratios in the context of the total number of physicians available to work in any given area.

Our data also suggest that wide variations in family physician:population ratios exist among rural communities. Thus, one cannot assume that family physician:population ratios are uniform in a given health region or that they are uniformly low in all rural communities. Our data do show that the majority of rural communities have ratios that are lower than the corresponding health region ratios — sometimes quite a bit lower.

In conclusion, physician:population ratios in all northern health regions and in many rural communities throughout British Columbia, are below the provincial average. This discrepancy may contribute to the issue of "burnout" commonly cited among physicians working in rural areas.¹

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Warning bells and red herrings

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Unusual pain in a child, particularly that causing nocturnal awakening, should lead to warning bells being sounded in the minds of clinicians and should prompt more in-depth investigation and early referral, if necessary. There is no substitute for thorough history-taking in such situations, bearing in mind the dangers of being taken down one diagnostic pathway by historical red herrings. Busy practices and the notorious "fit in" patient can often lead to missing the cues we need to identify unusual cases in the sometimes seemingly endless stream of trivialities we often deal with in family practice.

Une douleur inusitée chez un enfant, en particulier une douleur qui l'éveille la nuit, devrait constituer un avertissement pour les cliniciens et les inciter à procéder à un examen plus approfondi et à référer rapidement le patient au besoin. Rien ne remplace une anamnèse minutieuse dans de tels cas, mais il ne faut pas oublier les dangers de se laisser leurrer vers un diagnostic par des facteurs historiques. Les pratiques occupées et les habitudes notoires qui consistent à «insérer» des patients peuvent souvent faire rater l'indice dont nous avons besoin pour identifier des cas inusités dans le flot qui semble parfois interminable des cas banals que nous voyons souvent en médecine familiale.

The following article describes the case of a young boy who arrived at our 2-physician clinic in a small community with a population of 2800 located in the foothills of the Rockies in northern British Columbia. The clinic has a diagnostic and treatment centre with no in-patient beds, and our nearest hospital and referral centre is 120 km away. The nearest pediatrician is 260 km away. There is a visiting pediatric orthopedic surgeon who comes every 2 months to a community 160 km away by road.

Case report

A 10-year-old boy was seen by my colleague in January. The patient had fallen on the ice and

landed on the area of his coccyx. He complained of localized tenderness. No bruising was noted, and a sacrococcygeal radiograph was unremarkable. His mother brought him back in August, indicating that since the incident her son always seemed to be limping and that he frequently complained of low back pain. She also noted that the boy could no longer touch his toes.

A more in-depth history revealed some odd episodes of nocturnal awakening with pain. There seemed to be no radiation of the pain into the legs, no associated paresthesia and no bladder or bowel symptoms. There were also no associated constitutional symptoms, including no weight loss. Systems enquiry was otherwise unremarkable. The patient's medical history was also unremarkable except for an incident 1 year previously when he had been involved in a 4 wheel ATV rollover in which he had injured his neck and was told that he had sustained a "reverse whiplash injury." He appeared to have recovered fully from this.

The family history was non-contributory. Examination revealed no abnormalities on general and systems examination. In particular there was no pallor, hepatosplenomegaly or signs of a leukemic state. On examination, the thoracic spine appeared normal. The child clearly walked with a very slight limp and lumbar spine flexion was restricted to fingertips to the knees. Straight leg raising was limited to 30° on the right and 45° on the left. Power, tone and reflexes were normal in the lower limbs, with plantars being bilaterally downgoing. Trendelenburg's test was negative. Lower limb and hip examination was normal. In view of this symptom complex in an otherwise well child, thoracic and lumbar spine series were ordered together with complete blood count and urinalysis. These all proved to be normal.

Alarm bells continued to ring, and a referral to our visiting pediatric orthopedic surgeon resulted in a feeling that we should probably arrange an MRI in case "this boy's pain is neurological in nature." MRI was arranged in Vancouver (a journey of 1300 km by road) by the specialist and this took approximately 6 weeks. This was quite impressive given the normal MRI delays for adults of close to a year. The lag time from the boy's presentation in August to the MRI was thus approximately 10 weeks. This appears reasonable given our remoteness and is attributable in large part to the specialist's willingness to expedite further investigation of this child.

The MRI showed an enhancing, solid, intradural mass from about L5 down to the lower end of the thecal sac and compatible with a probable diagnosis of an ependymoma. The patient underwent resection of the tumour, and histologic examination of the specimen confirmed the diagnosis. He is doing well with no residual neurologic defect and has normal bladder and bowel function.

Comment

This case illustrated to me once again the importance of paying attention to atypical pain in a child and emphasized how easily we can be led down one diagnostic path by a red herring. It further illustrates that wise notion of Sir William Osler: "Listen to the patient. He is telling you

the diagnosis."

The power of the retrospectroscope of course reveals that all the boy's signs could be explained by that of nerve root tension. Cases such as these, especially in the rural setting with limited access to consultant advice, are a humbling experience and re-emphasize for me how every day we must deal with a rich array of disorders and interesting cases.

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The occasional poor man's cricothyrotomy

Gordon Brock, MD, CCFP
Vydas Gurekas, MD, CCFP

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Needle cricothyrotomy is an alternative airway technique for use when you cannot maintain an open airway by less invasive methods. The basic indication is the "can't intubate, can't ventilate" scenario, where you cannot maintain proper ventilation with a bag-mask and have failed to intubate on 2 or more attempts.¹ This is most likely to happen in the trauma victim: a recent study of 610 emergency-room intubations in an urban American hospital found that cricothyrotomy was necessary in 7 patients (1% of total patients), 6 of whom were trauma patients. This represented an overall rate of only 2% of trauma patients who needed airway management.²

Several commercial kits are available for either full cricothyrotomy (they will be described in a future article) or jet-air ventilation. However, a poor man's cricothyrotomy may be done easily with equipment available in any emergency department ([Fig. 1](#)).³

Since this is a lifesaving procedure, there are no real contraindications. Complications are listed in Table 1. The method is as follows:

Table 1. Complications

1. Kinking of the catheter
2. Subcutaneous emphysema
3. Hypoventilation and hypercapnea
4. Bleeding into the trachea
5. Pneumomediastinum
6. Esophageal perforation

1. Prepare the equipment you will need: a # 12-14 intravenous needle catheter with a 3-mL plastic syringe attached; the adapter from a # 7.5 endotracheal tube ([Fig. 1](#)).
2. Be sure the patient is properly positioned. If cervical spine injury is unlikely, extend the

- neck or else put a pillow under the shoulders to help achieve some neck extension ([Fig. 2](#)).
3. Locate the cricothyroid ligament, just below the thyroid cartilage. Remember, you are doing a cricothyrotomy, not a tracheotomy! ([Fig. 3](#)).
 4. If time permits, prepare the skin and inject some topical lidocaine.
 5. Stabilize the larynx using the thumb and middle fingers of your nondominant hand ([Fig. 4](#)). Your index finger can verify the position of the cricothyroid membrane.
 6. Insert the needle through the lower part of the cricothyroid membrane (which is less vascular) at an angle of about 45° and aimed toward the feet ([Fig. 5](#)). Apply suction to the plunger to detect a flow of air that will indicate that you are in the trachea. (Some sources recommend adding 1 to 2 mL of water to the syringe and then watching for bubbles [McGill University airway management for the emergency/rural physician Course, December 1998].4,5)
 7. Once the trachea has been entered, remove the needle and then reattach the syringe, minus the plunger ([Fig. 6](#)).
 8. Attach the adapter of the #7.5 endotracheal tube to the open end of the syringe, to which it mates nicely ([Fig. 7](#)). An Ambu bag-mask or oxygen line may be attached ([Fig. 8](#)).
 9. Tape the catheter to the skin if desired.

If you wish, you can give oxygen by replacing the 3-mL syringe with a 10-mL syringe. Remove the plunger. Place a 7.0-mL endotracheal tube into the 10-mL plunger, inflate the cuff and then simply attach your oxygen line to the adapter end of the endotracheal tube.

The principles of doing an emergency cricothyrotomy remain the same in the small child, with a few caveats: everything will be smaller, landmarks will be harder to find and there is a greater chance of injuring an adjacent structure. Use a 14- to 16-gauge catheter needle.

Remember that a needle cricothyrotomy is only a temporary airway until a more stable airway — which may include intubation by a more experienced operator, full surgical cricothyrotomy or regular tracheotomy — may be obtained. Remember that even a small partial airway may be enough to keep your patient alive and avoid hypoxic brain damage until more help can be mobilized.

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This article has been peer reviewed.

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Country cardiograms case 13

Charles Helm, MD

CJRM 1999;4(3)153-5

Case presentation

A 46-year-old man, who had no previous cardiac history, presented to our medical office with a history of repeated vomiting during the preceding 10 hours. There was no history of chest pain, shortness of breath or sweating. He looked ill and was found to have a weak pulse of 170 beats/min and a blood pressure of 150/120 mm Hg.

He was taken immediately to the emergency room, attached to the cardiac monitor and given oxygen. Intravenous lines were established and he was cautiously rehydrated. The following 12-lead electrocardiogram (ECG) (Fig. 1a) was obtained. Note that an ECG taken a month before this incident showed normal rhythm and normal QRS complexes.

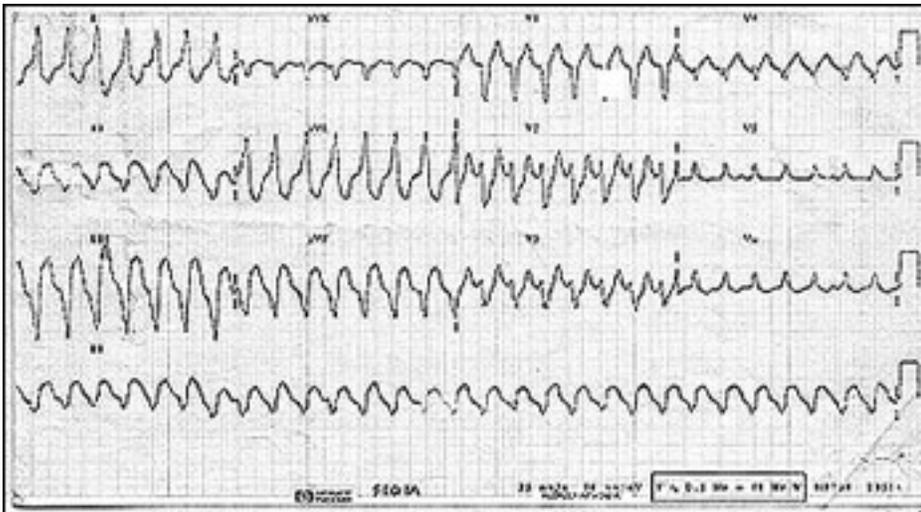


Fig. 1a

What is the ECG diagnosis and how should this patient be treated, assuming his clinical condition remains the same?

The ECG displays a wide complex tachycardia (QRS width is 0.12 ms) with a regular rate of 173 beats/min. The differential diagnosis lies between ventricular tachycardia (VT) and supraventricular tachycardia (SVT) with aberrant conduction.

In this situation, complete confidence in diagnosing the origin of the tachycardia is often impossible. However, the adverse consequences of inadvertently treating an SVT as VT are minimal, whereas the consequences of treating VT as an SVT with a drug such as verapamil can be grave. Some experts simply recommend that VT be assumed unless compelling evidence suggests otherwise. Detailed guidelines are available to help with this distinction, but they are often too time-consuming to read during emergencies.

A quick glance sometimes can identify 2 almost conclusive indicators that a rhythm is ventricular in origin: independent P waves and fusion beats. However, many VT tracings show neither of these.

In our patient, we suspected this rhythm could be VT because of possible evidence of independent P waves in leads I, V5 and V6, a left axis deviation of -45° and the slight slurring of the downstroke of the QS complex in V1. It was only in retrospect that we confirmed our suspicion by noting that P waves could indeed be mapped out through most of the rhythm strip. As this rhythm strip is simultaneously recorded with the rest of the ECG, the likely P waves in leads V5 and V6 can be used to initiate this process: an atrial rate of 120 beats/min is revealed (Fig. 1b).

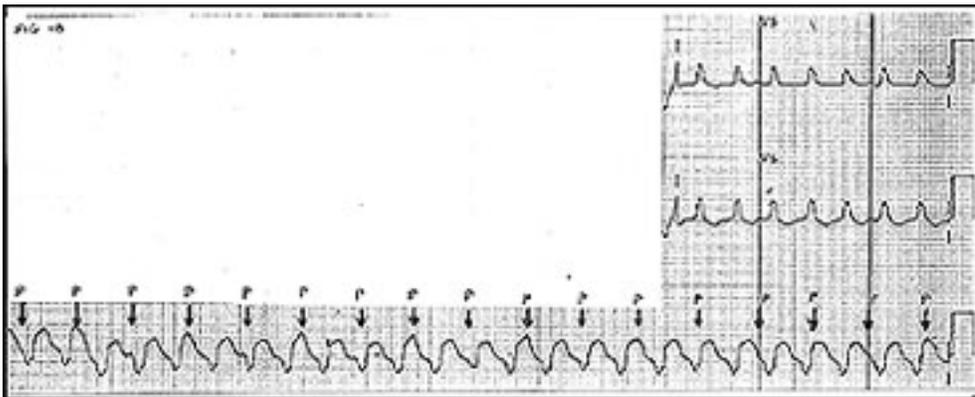


Fig. 1b

In this case we initiated laboratory investigations and began a trial of medications with lidocaine in the standard doses. We also administered magnesium sulfate, 2 g IV, to the patient, on the grounds that the recurrent vomiting may have led to decreased magnesium levels. Neither medication had any effect on the arrhythmia or the patient's clinical state. We proceeded with a procainamide infusion, which took just under 1 hour to infuse completely.

While procainamide was being administered, we obtained laboratory results, which showed significantly elevated cardiac enzyme levels. We diagnosed acute myocardial infarction (MI),

which lent a greater sense of urgency to treating the arrhythmia, in spite of the patient's apparent "stable" condition.

Knowing that MI is present allows greater confidence in diagnosing VT. Tchou and colleagues¹ examined patients with MI, no history of arrhythmias and wide complex tachycardia. In 28 of 29 cases VT was the cause.¹

We discontinued the procainamide infusion and decided to perform synchronized cardioversion. The patient was sedated with midazolam, 3 mg IV, and cardioverted with 100 J.

Immediately thereafter we obtained the following tracing (Fig. 2). What is the diagnosis?

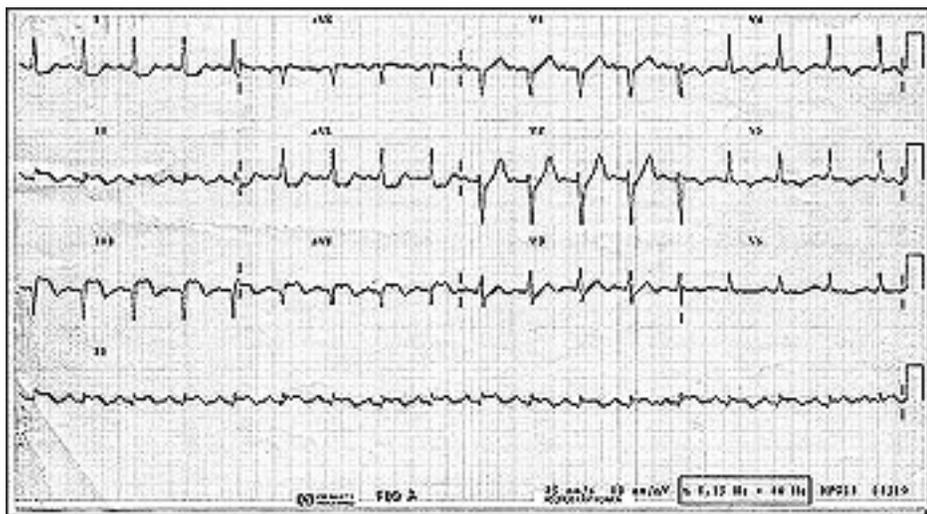


Fig. 2

Sinus tachycardia is present, with elevated ST segments in leads II, III and aVF and reciprocal ST-segment depression, best seen in leads I and aVL. Q waves and T-wave inversion are seen in leads II, III and aVF. These findings are indicative of an acute inferior MI, consistent with the patient's history of the event that took place 11 hours previously.

Less-specific T-wave changes are seen in leads V4-6 (subsequent ECGs revealed definite evidence of lateral extension). There is no evidence of posterior extension in V1 or V2; this was supported by normal tracings in leads V7, V8 and V9 (not shown).

We obtained a V4R tracing (Fig. 3). What does it show and what are the implications for treatment?

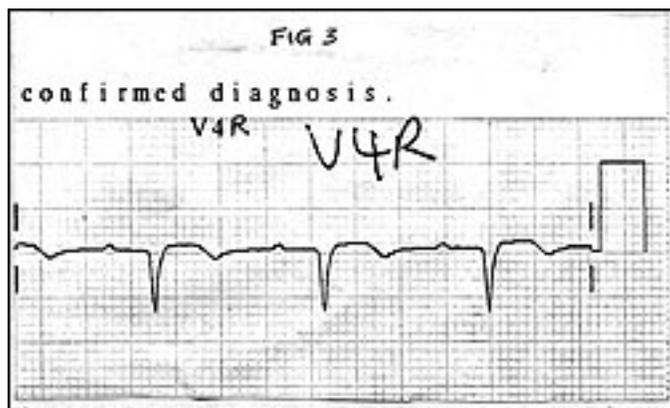


Fig. 3

ST-segment elevation is seen in lead V4R, allowing a diagnosis of right ventricular infarction. This condition accompanies over 30% of inferior MIs, since in most people the right coronary artery supplies both the right ventricle and the inferior wall of the left ventricle. ST elevation of only 1 mm above baseline is necessary for this diagnosis to be made. Such patients are often hypotensive and respond well to boluses of intravenous fluids. Great care needs to be taken in administering nitroglycerine, which, by virtue of its effects in decreasing preload, may further decrease right ventricular filling and lead to decreased cardiac output.

We consulted a regional internist and then decided to proceed cautiously with a slow infusion of nitroglycerine IV (10 µg/min). Although the patient was at no time hypotensive, he was given fluid challenges with good clinical effect. He also received acetylsalicylic acid, intravenous metoprolol and a lidocaine infusion. We considered thrombolysis but decided against it because of the time that had elapsed since the event. The absence of chest pain also influenced this decision. The patient was sent in stable condition by air ambulance, with ACLS trained personnel, from our small rural community to a regional centre.

This single case holds a number of useful themes:

1. Not all MIs present with chest pain. Nausea and vomiting are a frequent feature of inferior MIs in particular.
2. VT can be a surprisingly stable rhythm and persist for hours.
3. When confronted with a wide-complex tachycardia, a quick search for fusion beats and independent atrial activity can allow a confident diagnosis of VT, but not finding these phenomena is of diagnostic significance.
4. VT in the presence of MI implies the need for cardioversion unless medications are rapidly effective.
5. In the presence of inferior MI, evidence of right ventricular infarction should be sought; this has definite management implications.

This paper has been peer reviewed.

"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 J0X 2Y0.

Reference

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Chaos revisited: health care on BC's Gulf Islands

Eugene R. Leduc, MD, CCFP

CJRM 1999;4(3)157-8

The Hornby Island Community Hall sits across the road from the elementary school and kitty corner from the graveyard, surrounded by tall cedars. The hall is in the centre of this northern Gulf Island in every sense of the word. It serves as a meeting place, concert hall, movie theatre, dance studio and more to the permanent population of 1200.

It is here, every Saturday night, that a feature-length film is shown. On this rainy January evening, the movie is Babe: Pig in the City. The movie turns out to be a fitting analogy to the health care situation on BC's Gulf Islands today.

The story is a farcical and hilarious fantasy that brings a naive country pig to the big city, where his good intentions cause chaos. It ends with the city's castaway pets uniting against the harsh tyranny of urban life and then fleeing to a blissful home on an idyllic country farm.

Hornby Island, like other Gulf Islands, is the idyllic home to many urban castaways. Most live there by choice, a few feel trapped by happenstance, many families have been there for generations. The livelihood is usually at a subsistence level for the permanent residents, but there are also some wealthier retirees and a seasonal influx of tourists and cottage people. The summer population swells into the thousands.

The winter nights are very dark, and there are no street lights on the Island. On arriving at the Community Hall for the movie, the cold blackness gives way to a noisy, bright interior warmed by a large wood stove. Children are playing on the dance floor. Adults are standing or sitting in groups, sipping coffee and chatting.

A cross-section of the community has come to this event. There are young women in long skirts and knitted hats nursing their infants. Middle-aged men with wire-frame spectacles and graying hair caution the younger children to slow down. Pre-teen girls dressed in the latest Spice fashion huddle and giggle in a corner while the boys sit in the back throwing popcorn at each other. An

elderly couple sit quietly near the front.

This same cross-section, with emphasis on the elderly, is what one sees in the Hornby Island Health Centre clinic. This office, shared with the local physiotherapist, is in a "portable" behind the Community Hall. At present it is open from 1 pm to 5 pm Monday to Friday and staffed by a series of solo locums.

The well-intentioned locum physician on Hornby Island finds himself or herself thrown into the medical chaos created by British Columbia's health politics. The incumbent rural doctor, David Wiseman, withdrew his services in October 1998 and moved out of the clinic, which he had been leasing. This was a decision he came to after months of fruitless negotiation with the Comox Valley Health Council and the British Columbia Ministry of Health.

Dr. Wiseman has lived and worked on Hornby Island for 19 years. During that time there has always been another doctor with whom to share the work. In early 1998, the other doctor retired, and Dr. Wiseman has been unsuccessful in replacing him. Like other Gulf Islands, Hornby's population will not provide a competitive fee-for-service income for more than one full-time doctor.

The recent Dobbin report in British Columbia gave only passing mention to the plight of the smallest communities. The settlement between the northern rural doctors, the British Columbia Medical Association and the provincial government failed to resolve the problems in these 1- and 2-doctor towns without hospitals.

Dr. Wiseman has suggested many viable alternatives, including his willingness to be salaried, as long as there is another physician to share the work, which includes 24 hours, 365 days on-call. But, without advising Dr. Wiseman, the Ministry of Health started bringing replacement physicians to the Island at \$600 a day through the British Columbia Rural Locum Program. It was ironic that they had to hire Dr. Wiseman back as a locum during the Christmas period.

The sad fact is that this story is repeating itself on other Gulf Islands. Dr. Jeanne Keegan-Henry and Dr. Phil Foster have given up and decided to move from their homes and solo practices on Mayne and Cortes Islands. Meanwhile, the complaints of island residents seem to be falling on deaf ears. Why is this happening?

Although many accusations and proposed remedies have been thrown around in the last few months, the fundamental reason for the present chaos is that the voice of rural British Columbians has been largely ignored by successive governments. The problems in forestry, fishing, native-land claims and health care that are just emerging are the consequence of years of inaction. This failure to address important rural issues has understandably had a negative effect not only on rural health care but on our resource-based economy.

Of those in the Hornby Island Community Hall who clapped and cheered for Babe: Pig in the City, perhaps some could see the irony in this mythical depiction of contented rural life. For the people of Hornby Island, the reality is a 2-hour, 2-ferry journey to get to high school or fill a prescription. The ferry system shuts down after 6 pm and leaves them isolated. Unless the current health chaos is resolved, islanders are facing the prospect of 13 hours a day with no local access to a doctor or an adequate emergency facility.

Now we are starting to see the movie in reverse. A new group of rural castaways are fleeing the harsh tyranny of the country to seek a better life in the city. If only it was so funny.

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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 or email them to cjrm@fox.nstn.ca

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What we heard about advanced skills . . .

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The SRPC and the CFPC co-hosted a special conference day at the SRPC's annual conference in St. John's, Nfld. in April 1999. This article contains some quotes that cover the range of the discussions that took place during the day. They do not purport to cover everything that was said or in the order in which they were said but rather give a "nutshell" flavour. For an account of the meeting see the article on [page 160](#).

- "C-section [capability] seems to be the lead point for a community and once you lose that there is a cascading effect on what is lost next and then on what you can attract to the community in the future. The presence of these special skills has a huge unexplained and undescribed effect on the community when they are removed." Len Kelly, MD
- "These communities [which lose advanced skills] start to take care of reasonably well people and this dramatically changes health care. Communities lose their ability to attract doctors. The health care becomes triage and that would be a dramatic change for rural Canada." Stuart Iglesias, MD
- "These are general skills that need to be received by family physicians in rural areas and our job is to help make that happen." Ruth Wilson, MD
- "It's an underground training system [for advanced skills] because it is unrecognized. It is unsupported. There is no training, no maintenance of competence. These doctors are invisible in the institutions of Canadian medical training." Stuart Iglesias, MD
- "[The] ad hoc/underground education network and lack of a professional home starts at the postgraduate level. These [advanced skills] programs don't have a home within the academic community and faculties of medicine. These programs are maldistributed and exist where there is need." Paul Rainsberry
- "What are the needs? We need data. We are so often in conflict between the needs and the wants. Develop some data to help us define the need." Larry Ohlhauser, MD

- "It is important to find out where these [training] programs are and where their graduates go. The statistics are not there. There are people out there doing [special skills] but we don't know how much our training programs are contributing to that. . . . if these programs have a home where they could be accredited we would know where they are and it would give motivation to the academic community to assess these graduates and see how well they do." Paul Rainsberry
- "We still have concerns about the line which is defined by the peritoneum and the ideal provider for this is a certified general surgeon. If there is a demonstrated need then perhaps we need to look at that, but so far the data has not convinced me that there is such a huge need." Bill Pollett, MD
- "There is a need for more training positions to address advanced skills and the CFPC needs to set national standards and work with the SRPC and the specialist societies to look at accrediting programs. We need to do it cooperatively with the Royal College and the licensing authorities. Access to specialist skills training has to be made more available than it is now." Paul Rainsberry
- "The key word in solving this problem is collaboration and respect for what other physicians do, that we are part of a whole, that we all should be playing for the same football team although we play different positions." George Goldsand, MD
- "Where are the barriers? Sometimes we are the biggest barriers because of our turf." Larry Ohlhauser, MD
- "Probably we in the academic centres have a great deal more to learn about [rural doctors] than the reverse. One of the most frequent legitimate complaints is that when you do communicate with tertiary care centres it can be very frustrating for you. [A specialist] who doesn't have a good understanding of the circumstances and conditions under which you are working . . . doesn't give the best advice. I think there needs to be a better understanding between the two groups." George Goldsand, MD
- "This process that has started should be given some time to mature and develop. I would urge you to continue to work with the specialist societies. You may find there is more support for your ideas than you think and that there are also some areas we need to work on. We need to work in concert with each other rather than in conflict. We feel we can resolve many of these problems." Ken LeDez, MB
- "I don't pretend that additional skills are not a viable option but we should recognize there is a strong role for regionalization of a lot of surgical services. We have been training people who are perhaps only qualified to work in larger centres. We need to look at more

broadly trained surgeons. We wish to continue to be part of the process." Bill Pollet, MD

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Advanced skills in rural Canada

CJRM 1999;4(3):160-3

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On Apr. 13, 1999, the Society of Rural Physicians of Canada (SRPC) and the College of Family Physicians of Canada (CFPC) held a special conference day "Advanced Skills in Rural Canada." The following is a summary of the conference.

Conference goals

- Document the need for advanced skills in rural Canada.
- Review the appropriateness of the practice of advanced skills by rural generalists.
- Review present Canadian training programs.
- Explore models for advanced skills training.
- Promote specialist-family physician dialogue.
- Recommend solutions for professional isolation, maintenance of competence and CME.
- Explore the need for a national consensus conference on advanced skills for rural family physicians.

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Speakers

Jill Strachan (Manager, Health Human Resources, Canadian Institute for Health Information [CIHI]) and Stuart Iglesias (Rural Family Physician) — "Utilization of Advanced Skills in Rural Canada." Jill and Stu explained how they used CIHI databases in an attempt to measure the numbers of rural general practitioners performing advanced procedures in rural Canada. The data showed large variations regionally in the number of GP surgeons and anesthetists, and showed that foreign-trained graduates contribute significantly to the pool of generalist rural physicians performing these skills in Canada. They also found evidence of advanced skills training in Canada that was not covered by any standards but might be training rural physicians effectively for a variety of advanced skills outside recognized training programs — the so-called "underground." Comments from the audience pointed out problems with the data, which the investigators hope to resolve with more complete data sets.

Jim Thompson (Associate Professor, Division of Emergency Medicine, Dalhousie University) — "A Model for Sharing Advanced Skills in Rural Medicine." Jim presented the model he and Stuart Iglesias described (Iglesias S, Thompson JM. Shared skill sets: a model for the training and accreditation of rural advanced skills. [Can J Rural Med 1998;3\(4\):217-22](#)), which could be used to develop training, accreditation and quality assurance programs for generalists performing advanced skills. The shared skill-set model says that generalists should select patients appropriately and perform an advanced skill equally as well as a specialist. The model assumes that generalists are experts in knowing when to perform the procedure and when to refer the patient.

Steven Gray (Medical Consultant, British Columbia Ministry of Health) — "A Provincial Government Viewpoint." Steven reviewed data and concepts regarding the use of advanced skills by generalists in rural communities. He expressed the view that physician shortages were due to a maldistribution of an adequate number of physicians. He gave the opinion that improved educational and training opportunities would not solve the rural recruitment problem.

Paul Rainsberry (Director of Education, CFPC) — "Current Training Programs in Advanced Skills." Paul reviewed existing training programs for family physicians who wish to learn advanced skills in Canada. There are problems with existing training programs because they are either not covered by a national training standard or produce graduates who end up staying in urban communities, particularly Emergency Medicine. He provided a vision for how training and certification could be improved and proposed a certifiable "third year" of training in advanced skills for rural physicians.

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Peter Newbery (President-Elect of the CFPC), Stuart Iglesias, Ruth Wilson (Chair, Department of Family Medicine, Queen's University), George Goldsand (Associate Dean, Postgraduate Medical Education, University of Alberta), Stephen Gray and Larry Ohlhauser (Registrar, College of Physicians and Surgeons of Alberta).

Reconciling community needs and the need for a national training program in advanced skills for rural family physicians

Peter outlined the many-faceted problems inherent in developing and implementing training programs for rural advanced skills programs, and suggested solutions for discussion. George outlined the history of how Alberta's hospitals responded to the need for training rural family physicians in advanced skills training. He spoke of the need for competing groups to speak with and not about each other; the importance of balancing viewpoints; the need to determine need; the definition of "rural;" and the problem of deciding whose needs would be served. He urged that national, portable, accredited programs be developed for deans to implement. Larry said the first step should be to define the "ends" (healthy, happy patients) and that the "means" (appropriate physicians performing appropriate procedures in appropriate places) will follow. Trying to define the means first would slow the process excessively. He felt that an effort to develop a national program for funding rural advanced skills training positions would fail owing to the complexities of administering and funding such a program. He encouraged use of existing accrediting bodies for national accreditation of local training programs. He suggested a focus on developing data to document inflow and outflow of patients among communities and the cost to communities for the dispersal of advanced skills capability. Ruth called for an agreement on national standards for accreditation and development of a professional "home" for rural family physicians who practise advanced skills. She gave a university perspective on the realities of using limited residency positions for this training. Steve polled the audience and by a show of hands found that many thought that funding for training for advanced skills would contribute significantly to resolving the problems of access to advanced skills by rural communities.

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Questions for breakout groups

Common for all groups

1. What is the most appropriate delivery system for anesthesia, operative delivery, and general surgical services in rural Canada?
2. Should training programs be standardized and national, or should we encourage considerable regional variation?

One additional question for each group

3. How would you design a prototype program to train rural family physicians in advanced skills?
4. How large a training system do we need?
5. How should training programs provide for maintenance of competence activities of its graduates?
6. Are return-of-service contracts appropriate for advanced skills training?

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Answers by breakout groups

1. What is the most appropriate delivery system for anesthesia, operative obstetric delivery and general surgical services in rural Canada?

The most appropriate delivery system would train Canadian physicians to be sensitive to community needs and would be competency-based. No single system fits all regions without modification. Any system must be sustainable.

It was generally felt that international medical graduates (IMGs) have a role in the current provision of advanced skills in rural Canada. The long-term sustainability of this source of rural physicians is not guaranteed.

Specialists should be trained for and encouraged to work in rural communities. But the size of the community and the capabilities of the support infrastructure required for them are significant limitations for specialists to live in rural areas. The specialist resource has the same requirements for on-call frequency and lifestyle as for other health care providers in rural communities. Mixed GP/specialist teams sharing an advanced skill set might be an appropriate option in some communities. Specialist/GP teams would permit a sustainable lifestyle for the specialist if the specialist's skill set could be shared among the GPs. Itinerant service by specialists provides useful service but can erode local skill sets by replacing them.

Provision of advanced skills by local GPs enhances recruitment and retention. This also enhances overall maintenance of physician and nursing capability in the rural community. The loss of local advanced skill provision by GPs can result in the loss of even basic physician services as other physicians become dissatisfied and leave.

The Canadian Association of General Surgeons (CAGS) feels that the degree of need for local advanced surgical skills has not been adequately determined. Regionalization of specialty services has not yet been adequately explored. The Royal College of Physicians and Surgeons of

Canada (RCPSC), the CAGS and other specialist training programs need to re-examine the training of specialists for practice in rural and regional centres.

Centralization of advanced skills into urban centres in all Canadian regions was rejected by most of the groups. It might be appropriate for selected regions. Analysis of regionalization should include the hidden costs of transportation and other costs.

2. How can we reconcile the advantages of a nationally accredited portable training system with the need to preserve a training system flexible to meet the variety of rural needs?

The two are not mutually exclusive. All groups called for a national standard with regional/local flexibility. A good national program has to be flexible to allow for teaching by generalists as well as specialists and to meet the needs of learners and communities. National standards would permit portability of advanced skills.

3. How would you design a prototype program to train rural family physicians in advanced skills?

There was support for 3 models: a third year, an augmented 2-year program and a modular program that would account for individual community and learner needs.

The program can be built on the existing system at the 16 medical schools but geographically should not be limited to urban university campuses. Teachers should include urban specialists and rural generalists and specialists. Training could be delivered away from urban university centres geographically, but specialists need to participate in the training program.

Programs could be modular to meet the needs of both learners and communities. Duration of training should be flexible based on competency. The concept of "mastery," variable rates of learning and previous experience should be taken into account. Availability of volume in the chosen teaching environment would also influence the training time.

Content of training would also be modular to meet the community needs and the infrastructure appropriate for and available to rural practice. The concept of combining the content of different skill sets should be encouraged. CIHI data presented revealed that FPs with more than one special skill-set are already prevalent and seem to be an important element of sustainable rural practice in many communities.

The model requires an external evaluation process in addition to the opinions of local preceptors. This evaluation needs to be "shoulder to shoulder" and governed by national standards.

It was not clear who would take the lead — the RCPSC or the CFPC; this was thought not to be

important as long as there is a national standard. Advice from specialty societies should be invited. Those colleges would address the issue of program length using evidence-based, and not empirical, guidelines.

The RCPSC uses a model whereby it accredits local training programs, and the individual is awarded a certificate of training. It was felt that the accrediting body should be national and that it could be one or both of the CFPC / RCPSC. It was felt that the programs should probably be the property of Family/Rural Medicine, but specialist departments should be key participants and the program should fall within their academic responsibility.

4. How large a training system do we need?

The answer to this was not clear. There should be a few centres of rural excellence that would administer the programs. These would not need to be in urban university centres, but the universities would be a resource for the rural-based programs.

It might be possible to contract to provide training internationally if volume at an appropriate centre within Canada is a problem.

5. How should training programs provide for the maintenance of competence (MOC) of its graduates?

There was agreement on the need for MOC. Currently too much MOC is reactive rather than proactive, but proactive MOC is burdensome to generalists who have to keep up in many areas. Virtual reality training or evaluation might be a viable future option. In-community peer assessments by regional referral specialists would be mutually beneficial to both the rural generalist and the specialist. There should be a yearly CME/continuing professional development requirement of 25 hours. Periodic audit by rurally aware certified specialists was suggested. There was no clear consensus on which of the 2 colleges should control the MOC process.

The need for continuous quality improvement and outcome measurement was raised.

6. Are return-of-service contracts appropriate for advanced skills training?

Return-of-service contracts were controversial, but they could be mutually beneficial. They might promote recruitment. These contracts might cast rural practice as second-class. There should be no such requirement for residents or re-entry physicians. Contracts could be used in some circumstances if there was extra funding to support a trainee's family or provide a locum, because a contract would be mutually beneficial. There should be a positive incentive on the physician's return, such as infrastructure support for providing the learned skill, and remunerative reward for using the advanced skill.

Next steps — summary of the wrap-up discussion from the floor

1. It was the consensus of the floor that the presidents of the SRPC, CFPC and RCPSC form a working group to move the issue of advanced skills toward a national consensus conference.
 - 1.1 Planning for a national consensus conference on advanced skills should include the Association of Canadian Medical Colleges (ACMC).
 - 1.2 The SRPC will meet separately with the Canadian Anaesthetists' Society (CAS) to further discuss training for advanced skills in rural Canada.

2. Further research is required in a number of areas, including but not limited to:
 - 2.1 Document the programs, preceptors and sites currently providing training in advanced skills in Canada for rural physicians.
 - 2.2 Find out why GP anesthetists often seem to give up their anesthesia skills after a few years.
 - 2.3 Expand the CIHI data on the current use of advanced skills by rural physicians to include physicians funded by other means than fee-for-service.

Special Conference Day on Advanced Skills in Rural Canada held in St. John's Nfld., Apr. 13, 1999.

Hosted by the Society of Rural Physicians of Canada and the College of Family Physicians of Canada.

Exploring working conditions

Jill D. Konkin, MD

CJRM 1999;4(3):164

Working conditions are a real issue for rural doctors, but how difficult are they and what can rural doctors do to improve them? These were the 2 main questions examined by members of a special interest group meeting at the recent SRPC conference in St. John's, Nfld. Originally intended to cover issues for women in rural medicine, the terms of reference for the workshop were expanded to cover working conditions for all rural doctors.

The working conditions of rural physicians are driven by many variables, including the expectations of governments and administrators, the public/our patients, our colleagues and ourselves. These expectations must be examined, our relationships and responsibilities to each of these groups must be explored and solutions must be forthcoming or others may seek to impose solutions on us.

We need a consensus among our members on some general principles. Are we looking for guidelines or options? Should national standards be developed for issues such as frequency of call and hours of work expected per week? Some participants in the workshop pointed to a need to design a system that supports individuals in defining their limits.

We must develop resources to help individuals and groups of physicians who are presently engaged in changing their working conditions. A national directory of physicians with expertise in negotiating working conditions, such as alternative payment programs and on-call arrangements among colleagues, would be a start.

Workshop participants felt that it was important to define what we're willing to do and what the value of our time is. Compensation is only a measure of the value of the time we spend on medicine. We need to factor in family time, continuing education time and holiday time.

Two other important areas for exploration are retirement, and maternity and parental obligations. Physicians nearing retirement need options. Too often physicians either work until they drop or

else they leave town because there are no options in place to allow them to lessen the time spent on work, including their on-call responsibilities. Women in rural medicine often have more problems juggling family responsibilities with those of work than do their male counterparts. We need to work at developing better programs for maternity leave as well as creating realistic part-time work positions.

It is important to evaluate changes that have already been made. Has compensation for call done what we expected? What are its successes and failures? What working conditions are alternative payment programs improving? Are there new issues for those of our colleagues working under these programs? Have rural locum services been successful? There are many ideas for developing other programs, including sabbaticals, re-entry training positions for rural doctors and compensation for rural doctors with advanced skills.

The executive of the SRPC has decided that the policy day at our annual conference in Ottawa next year will be on rural working conditions. There is much work to be done. If you are interested in joining the working conditions committee or have ideas and suggestions for topics and speakers please email Dr. Jill Konkin at jillk@telusplanet.net or write to Box 2139, Jasper AB T0E E0.

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Going back to high school

Jason A. Shack, BSc

CJRM 1999;4(3):165-6

About 2 years ago I returned to my long lost alma mater. Returning reminded me of growing up in a small town in northwestern Ontario, which offered a lifestyle to which some day I would like to return as a rural doctor. This day, however, was not just a day of reliving old memories. I had returned to talk with my successors in high school about the opportunities, rewards and challenges that a career in medicine, especially rural medicine, has to offer.

It had all started about 1 year before when a group of medical students at the University of Toronto who were interested in rural medicine joined together to form the Rural Health Interest Group. We started the group because we felt that there was a lack of focus on rural education at the university, and we wanted to educate medical students and faculty about the realities, challenges and rewards of rural medicine. We hoped to become advocates for change in the medical curriculum, to facilitate access to rural experiences throughout the medical curriculum and to reach out to rural high school students in the hope of fostering an interest in medicine so that one day they might return to practise in a rural area.

The rural outreach program is designed to be informal, interactive and portable. The presentation is centred around a simple question-and-answer book that medical students can quickly read to give them ideas about what they may want to talk about. It also suggests answers to the most commonly asked questions. The presentation begins with a brief personal recollection about university life and then moves into a discussion about medical school and what it means to be a rural doctor.

It was an interesting experience to return to my former high school and to find myself looking at others sitting in the same seats in which I once sat and where I once contemplated my own future. Each talk began much the same way. A group of glassy-eyed individuals looked on, probably thankful that their class time was being occupied by something that was not going to give them any homework. As I began to reminisce about my experience of going off to school in the "big city" the look in their eyes began to change. If I had never seen it before, I will now never miss

that glimmer of interest and excitement reflected in their eyes.

Given that I was a university student, albeit in my sixth year, and a relatively recent high school graduate, they saw in me somebody with whom they could identify. They could ask me questions and trust that the answers would be a reasonable assessment of reality. Once those questions began, each talk quickly continued with unfaltering interest for 50 minutes and could have gone on much longer had it not been for that usually longed-for bell.

Initially, there were many questions about applying to university and what could be expected from university life. Then came the wave of questions about medicine. What marks do I need? What volunteer work should I do? What undergraduate courses do I need to take? Although it may sound trite what we were all told about becoming a well-rounded individual is really the best answer to many of their questions.

Since the initial trials of our rural outreach program, it continues to expand and receive many accolades, not only from the students and staff of the high schools but from the medical student presenters themselves. The positive response indicates that the program is on its way toward fulfilling its 3 goals. The first goal is to instill an interest in postsecondary education and the second goal is to instill an interest in rural medicine and make high school students realize that it is possible for someone from a rural area to make it into and through medical school.

The ultimate long-term objective of this program is to have a positive impact on the recruitment and retention of rural physicians. This is a lofty goal by any standards. Given the fact that the program has only been in operation for 2 years, it has not had time to have an effect on the number of rural physicians. However, if we apply what is now known about the recruitment and retention issue then we can, through implication, comment on the effectiveness of this type of program. A slightly more advanced program directed at high school students has shown that it is possible to intervene at the high school level and increase the number of students from rural areas in an urban medical school.¹ We also know that those who come from a rural area, and especially those who also do some training in a rural area, are more likely to return to a rural area to practise.² I grew up in rural Canada and plan on returning. I cannot emphasize how much an appreciation of the rural lifestyle prepares you for doing so.

Ultimately I believe that the solution to the recruitment and retention problem is not simple and requires an integrated approach with many systemic changes. This approach has been echoed by many professional bodies, most recently by a collaboration between the Ontario Regional Committee of the Society of Rural Physicians of Canada and the Professional Association of Internes and Residents of Ontario.³ As part of the integrated solution, approaching rural high school students is one of the first key interventions. I hope that the small student initiative here at the University of Toronto can have a positive impact.

Jason A. Shack, BSc, Medical Student, University of Toronto, Toronto, Ont.

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Destination Bauchi Province

Coming of age

Sterling Haynes, MD

CJRM 1999;4(3)168

Boomlay, boomlay, b-o-o-m-l-a-y, boom . . . It's dawn in Bauchi Province, Northern Nigeria. The night drums are slowing and sleepy. The sun is rising and the call to prayers echoes through the savannah country. The worshipping of Allah stops the drums until the morning prayers are over.

Today is the day of the Fulani beatings, boom, booom. Slowly the drums reverberate, the beat changes rhythm. The speed of the beat increases; the large horned humped-backed cattle paw at the dusty ground.

The boy herdsmen are naked, their skins gleaming in the sun. They use the long spears to herd cattle. Some of the boys are milking the cows; some collect blood from the cows' neck veins with a sharpened quill. There is blood and milk — fine food for the young warriors.

The sun clears the horizon. There is a lull. The bush dogs and the young herdsmen with the spears survey the scene. Boys, standing on one leg, stork-like, watch the cattle.

The sound of the drum is lower, the rhythm changes to a faster beat. The chiefs and the witch doctors appear in their loin skins. Each wears a headdress — half mask, half hat. Spectators in their white robes and red fezes surround the field.

The morning dew has contained the red dust for now. All life awaits the rainy season. Today will be hot and sultry. The drummers appear from the grass hut banging out a rat-ta-tat in unison.

Young male participants are in the wings, waiting to come to centre stage. Young unmarried females appear in their leather skirts, bangles, bracelets and paint. Their hair plaited, they bob in time with the drum beat. Jingle, jingle, boom, boom, jingle-boom.

These Fulani maids, black Arabs, with high cheek bones and aquiline noses, are dancers in high spirits, waiting to spur on their favourites.

Quickly, the lean, shiny, young men emerge from the huts. They wear leather breech cloths, their hair and body anointed with butter. Their faces are painted — vermilion, yellow and blue.

The drums reach a crescendo.

The athletic young men dance and leap and swish their cane whips with their right hand. The s-w-i-s-h of the rod, the b-o-o-m of the drum, the t-h-u-d of the foot. The movements become synchronized. In the left hand each holds a small mirror. The warriors' faces are turned to watch their gleaming adversaries. The mirror shows sardonic expressions. They adopt an arrogant stance. There will be no shrieking or shows of pain.

Boomlay . . . boomlay . . . boomlay . . . boom. More thuds and swishes in time with the tempo.

Facial grimaces are now etched. Each warrior circles his opponent. S-w-i-s-h, s-w-i-s-h. The two strike each other on the back and flank with the cane in time with the frantic drum beat.

Blood spurts from the welts but slowly congeals with grease and dust. The set grin reflected in each mirror never changes unless the warrior falls from exhaustion, blood loss or death.

No display of emotion, pain or discomfort. The grin reflected in the mirror never changes. They have come of age. They have entered manhood. They can endure.

The witch doctors enter to bind their wounds. Each new adult is rewarded with a calabash of milk, their badge of courage imprinted on their backs and flanks for all to see.

Dr. Sterling Haynes was an invited guest at a Coming of Age ceremony of the Fulani tribe in Bauchi Province, Nigeria, in the early 1950s. At the time he was stationed there as a colonial officer. He later returned to Canada and entered medical school.

Correspondence to: Dr. Sterling Haynes, 3135 Shannon Place, Westbank, BC V4T 1L3

Answers to cryptic crossword # 12

The clues to Cryptic Crossword # 12 can be found in the [Spring issue](#)

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

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Cryptic crossword # 13

Lee Teperman

Charteris, Que

CJRM 1999;4(3):188

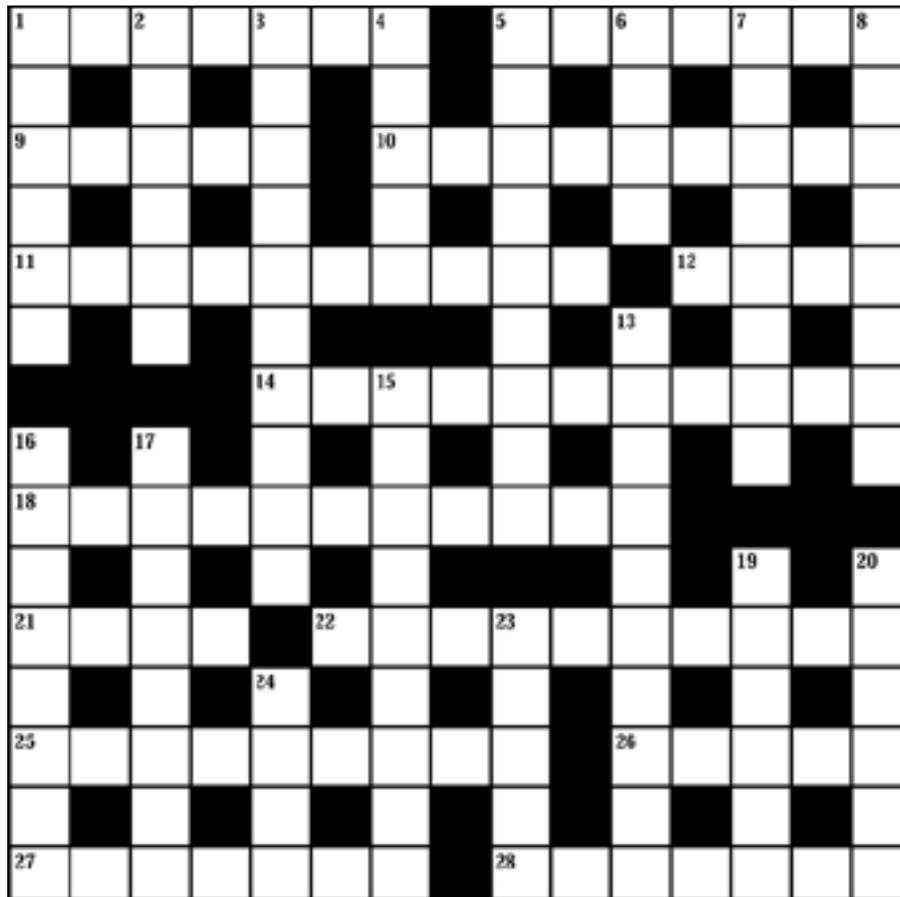
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For instructions on how to tackle a cryptic crossword, please see the first issue of CJRM ([1996;1:34-5](#)) or correspond with Lee Teperman, RR 5, Shawville QC J0X 2Y0; 819 647-3971 (tel and fax); bullhits@infonet.ca

The first physician to correctly answer Cryptic Crossword # 13 will receive a prize, compliments of Parke-Davis. To qualify, please fax, mail or email your completed crossword along with your name, address and telephone number to The Editor, CJRM, Box 1086, Shawville QC J0X 2Y0; fax 819 647-2845, cjrm@fox.nstn.ca

Readers can find the answers to Cryptic Crossword # 13 in the next issue of the journal. For the answers to [Crossword # 12](#) (Spring 1999 issue) see [page 169](#).



Across

1. Head of surgery with obligation to report operation on bivalve (7)
5. Person who makes cuts is nonetheless dear to some (7)
9. A firm ally of doctor is a real nut (5)
10. Competition for the likes of Thor (Latin version) (9)
11. Test that in ruins lay is flawed (10)
12. Source of toxins in seed pack (4)
14. Inviting a sort of hit, also pity (11)
18. Influential person or drink turned into game of chance (5-6)
21. Regret possessing no character (4)
22. Bright robe unfit for a dictator (3,7)
25. Emancipation and its relative détente (9)

Down

1. Immediately upon our standing (6)
2. A turkey in charge of the bomb (6)
3. County that left a common element green with rage (10)
4. Fringes of that included in benefits of being a woman (5)
5. Scoop one linked to evil exclusive of journalist's domain (9)
6. Towards street-raised wards (4)
7. The lions laid with more domesticated breed (8)
8. Foolishly unwary as missing children (8)
13. Mao's trip, it could be mistaken for loyalty (10)
15. Insuring heart attacks by making guesses (9)
16. Finger food for extra kid (5-3)

- | | |
|--|--|
| 26. Combination I love (2,3) | 17. Charlatan's small victory over doctor without legitimate borders (8) |
| 27. Good 16 retrieved by a retriever (4,3) | 19. Cast from village populated only by the odd hero (6) |
| 28. Candidate's refusal to touch explosive point (7) | 20. Lets out calls for a moratorium (6) |
| | 23. Four keys not opening or opened (5) |
| | 24. Outlaw linked to dead-end gang (4) |

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Reviews / Recensions

Gordon Brock, MD, CCFP

CJRM 1999;4(3):169

Advanced ECG: Boards and Beyond. Brendan B. Phibbs. 382 pp. Illust. Little Brown and Company, Boston. 1997. Price from Amazon www.amazon.com US\$ 29.95. Paperbound

In his preface, the author, a professor of clinical medicine at the University of Arizona, points out that reading electrocardiographs is "a basic life and death skill that's going to confront you with harrowing decisions throughout your professional life . . . but chances are that you have never had any organized formal training in it." Right on, Dr. Phibbs! Most of us (besides reading a certain orange or yellow self-teach book on rapid interpretation of ECG) were expected, as Dr. Phibbs also points out, to learn electrocardiography by osmosis from more senior residents or perhaps by inhaling the air of a CCU somewhere.

Dr. Phibbs's book is well laid-out, with 26 chapters on such topics as "Differential diagnosis of wide-beat tachycardia," "Myocardial infarction," "Atrial fibrillation," and "AV-block: where it localized and what can you do about it." Basic knowledge of the lead placements and normal waves is assumed not a problem for us.

I enjoyed Dr. Phibbs's clear and witty writing style, his avoidance of jargon and complex language, his simple tips and "tricks," and his eschewing of complex rules that I can neither remember nor find at 3:00 am. This book is high on common sense which, as Voltaire has pointed out, is not very common (notably in books on ECG interpretation).

Faults are few: perhaps inevitable in a book such as this the relevant ECG and the discussion are not always on the same page, necessitating some page turning. There could have been mention of rapid repolarization as a normal variant. ECG reproduction is sometimes difficult, but the ECGs in this book are almost all very clear.

These faults are minor. Get a copy of this book! Read it. Chain it to your bookshelf. It'll help you at 3:00 am some day!

Gordon Brock, MD, CCFP, Regular Contributor to "Country cardiograms"

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Letters / Correspondance

CJRM 1999;4(3):170

Please send us your comments and opinions. Letters to the editor should be addressed to:

Canadian Journal of Rural Medicine, Box 1086, Shawville QC J0X 2Y0; cjrm@fox.nstn.ca, fax 819 647-2845

Chest pain guidelines

Your article on chest pain guidelines was very practical. One of my colleagues suggested a useful addition, which would go near the beginning of the protocol: "If the patient collapses, nurse attaches leads and activates automated external defibrillator. If indicated, nurse defibrillates." While this would require many of our hospitals to purchase AEDs and educate staff in their use, it would save lives. It is ironic that patients developing ventricular fibrillation in many ambulances will be defibrillated by ambulance attendants, but not in some rural ERs, until a physician arrives.

Mike Cotterill, MD
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Dr. Thompson replies

The Rural and Small-Urban Committee of the Canadian Association of Emergency Physicians supports your suggestion. In its policy statement "Recommendations for the Management of Rural, Remote and Isolated Emergency Health Care Facilities in Canada," the CAEP had already recommended that electronic treatment of arrhythmias should be available at all levels of facility, depending on the availability of trained providers (see the "CAEP Library/Guidelines" section at www.caep.ca). This includes automatic or semiautomatic external defibrillators in rural hospitals.

I agree that these devices could improve access to immediate defibrillation in that setting, and that nurses should be supported to provide that type of care. The wording you suggest seems very appropriate.

Jim Thompson MD

jimt@jimthompson.net

Charlottetown, PEI

Chair, CAEP Rural and Small-Urban Committee

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Literature / Littérature scientifique

CJRM 1999;4(3)171

Enhancing the family medicine curriculum in deliveries and emergency medicine as a way of developing a rural teaching site. Rodney WM, Crown LA, Hahn R, Martin J. *Fam Med* 1998;30(10):712-9.

Providing services to rural areas south of the border has been no less problematic than it is here in Canada. Several long-standing American programs are now being evaluated, in keeping with the current interest in medical education for rural practice. These evaluations are important to help guide choices currently being considered by those in charge of Canadian training programs. In the early 1990s in Tennessee it was recognized that the training programs based in Memphis were not appropriately training or encouraging graduates for practice in rural areas of the state. A teaching practice in a rural county of western Tennessee was established, with particular attention being given to "special skills in advanced women's healthcare and emergency medicine." Residents are assigned to the site full-time, and faculty members from Memphis provide short-term locum support to the group. The arrangement not only provides continuity of health human resources, but there is evidence that some of the graduates choose to continue to practise in rural areas.

The long-term effect of an innovative family physician curricular pathway on the specialty and location of graduates of the University of Washington. Phillips TJ, Rosenblatt RA, Schaad DC, Cullen TJ. *Acad Med* 1999;74(3):285-8.

Some rural American states have taken a different approach. In 1971 the states of Washington, Alaska, Montana and Idaho designed a medical education program (WAMI) to train physicians for the member states. The program created a family medicine pathway with a defined medical curriculum as early as the second year of medical school. The stated goals were: "(1) that at least 20% of each class should enter family practice and (2) that an increased number of graduates should enter rural family practice in Washington."

The authors report on the success of the program at the University of Washington a mean of 19

years after the graduation of the 1968-1973 cohort of students. After the implementation of the new curriculum there was a significant increase in the number of physicians who chose family medicine as a specialty at graduation (34% versus 11%). Of the total number of graduating physicians, 27% were still in family practice a mean of 2 decades later.

The degree of success in rural placements was also documented: 21 graduates (3.5%) of the 6 classes studied were still in practice in rural Washington in 1994. This compares with only 2 (0.33%) from the 8 earlier classes. The authors do not state what percentage of the state's total physician cohort (whether or not they are WAMI graduates) serve the 17% of the state's population that is rural.

Rural background and clinical rural rotations during medical training: effect on practice location. Esterbrook M, Godwin M, Wilson R, Hodgetts G, Brown G, Pong R, et al. CMAJ 1999;160(8):1159-63.

In Canada, Queen's University in Kingston, Ont., has recently reported on a study of 159 students of its Family Medicine program who graduated between 1977 and 1991. Initial practice location upon graduation and practice location in 1993 (the year of the survey) were compared, and variables related to choice of rural practice were identified. Of the survey sample, 28.3% chose a rural practice location upon graduation. The authors did not find a significant correlation with either exposure to rural practice during undergraduate or postgraduate training or with sex or age. In contrast, "hometown size was strongly associated with choosing a rural community as the first practice location: physicians from hometowns with less than 10 000 people were 2.30 times more likely . . . to choose rural practice than physicians whose hometown had a population of 10 000 or more." Similarly, only hometown size was associated with physicians remaining in rural practice in the years following their initial choice. In this sample, these physicians "were 2.48 times more likely . . . to choose rural practice than physicians from hometowns of 10 000 people or more."

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Physician:population ratios in British Columbia

Table 1. Physician count and full time equivalent count in health regions

Health region	Population (June 1997)	Family physicians		Total physicians	
		No.	FTE	No.	FTE
Vancouver	543 084	897	691	2029	1646.15
South Fraser Valley	525 448	414	444	634	677.1
Capital region	334 577	446	371.7	777	693.1
Simon Fraser	297 135	251	257.8	482	488.8
Central Vancouver Island	236 924	239	229	366	350.1
Fraser Valley	229 347	192	206.1	289	309
South Okanagan/Similkameen	221 377	214	216.6	372	384.1
Burnaby	178 922	154	147	238	235.5
North Shore	173 943	215	180	378	337.3
Richmond	148 311	134	130.1	234	228.4
Thompson	129 789	113	115.3	198	203.1
Northern interior	128 597	110	113.1	171	173.0
North Okanagan	120 096	120	115.1	186	178.6
Upper island/central coast	119 611	128	114.8	183	161.9
North west	92 683	92	85.1	121	115
West Kootenay	81 093	94	83.45	136	121.7
East Kootenay	80 105	81	79.33	113	110
Coast Garibaldi	73 936	89	76.7	108	90.9
Cariboo	75 589	62	60.3	81	76.3
Peace Liard	64 575	49	50.8	59	59.05

[\[Return to text\]](#)

Physician:population ratios in British Columbia

Table 2. Family physician:population ratios

Health region	No./1000	FTE data/1000
Vancouver	1.65	1.27
Capital region	1.33	1.11
North Shore	1.24	1.03
Coast Garibaldi	1.20	1.04
West Kootenay	1.16	1.03
Upper island/central coast	1.07	0.96
East Kootenay	1.01	0.99
Central Vancouver Island	1.01	0.97
North Okanagan	1.00	0.96
North west	0.99	0.92
South Okanagan/Similkameen	0.97	0.98
Richmond	0.90	0.88
Thompson	0.87	0.89
Burnaby	0.86	0.82
Northern interior	0.86	0.88
Simon Fraser	0.84	0.87
Fraser Valley	0.84	0.90
Cariboo	0.82	0.80
South Fraser Valley	0.79	0.85
Peace Liard	0.76	0.79
British Columbia	1.06	0.98

[\[Return to text\]](#)



Physician:population ratios in British Columbia

Table 3. Family physician-to-specialist physician ratios

Health region	Family physician:specialist ratios	
	No.	FTE data
Vancouver	1.0:1.26	1.0:1.39
Simon Fraser	1.0:0.93	1.0:0.88
Richmond	1.0:0.76	1.0:0.75
Thompson	1.0:0.76	1.0:0.75
North Shore	1.0:0.75	1.0:0.88
Capital region	1.0:0.74	1.0:0.86
South Okanagan/Similkameen	1.0:0.73	1.0:0.78
Burnaby	1.0:0.55	1.0:0.61
North Okanagan	1.0:0.55	1.0:0.55
Northern interior	1.0:0.55	1.0:0.53
Central Vancouver Island	1.0:0.53	1.0:0.53
South Fraser Valley	1.0:0.53	1.0:0.52
Fraser Valley	1.0:0.50	1.0:0.50
West Kootenay	1.0:0.45	1.0:0.46
Upper island/central coast	1.0:0.43	1.0:0.41
East Kootenay	1.0:0.40	1.0:0.38
North west	1.0:0.32	1.0:0.35
Cariboo	1.0:0.30	1.0:0.26
Coast Garibaldi	1.0:0.22	1.0:0.18
Peace Liard	1.0:0.20	1.0:0.15
British Columbia	1.0:0.75	1.0:0.76

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Physician:population ratios in British Columbia

Table 4. Family physician-to-population ratios

Community	Population (June 1996)	FacilityNo./1000	FTE no./1000
British Columbia		1.06	0.98
East Kootenay health region		1.01	0.99
Elkford	2 729	DTC	0.73
Fernie	8 503	H	1.18
Golden	7 273	H	1.10
Invermere	7 606	H	0.79
Sparwood	3 982	H	0.75
West Kootenay health region		1.16	1.03
Kaslo	1 861	H	0.54
Nakusp	3 733	H	0.80
New Denver	2 642	H	1.14
Creston	13 284	H	1.05
Grand Forks	9 576	H	0.52
Midway	1 754	0	1.14
Salmo	2 774	0	0.36
North Okanagan		1.00	0.96
Revelstoke	8 702	H	0.92
South Okanagan		0.97	0.98
Princeton	2 916	H	2.06
Keremeos	3 795	DTC	0.79
Thompson		0.87	0.89
Ashcroft	4 212	H	0.71
Clearwater	4 930	H	1.01
Lillooet	4 719	H	1.48

Lytton	1 561	H	1.28	1.28
Merritt	11 309	H	0.88	0.71
Barriere	3 460	DTC	0.87	0.87
Logan Lake	2 492	DTC	0.80	0.80
Clinton	2 363	0	0.42	—
<hr/>				
Coast Garibaldi			1.20	1.04
Pemberton	2 217	DTC	1.35	1.35
Madeira Park	1 287	0	—	—
Texada Island	1 155	DTC	0.87	—
<hr/>				
Central Vancouver Island			1.01	0.97
Tofino	4 242	H	1.18	0.47
Ucluelet	1 170	0	1.71	1.71
<hr/>				
Upper island/central coast			1.07	0.96
Alert Bay	612	H	3.27	1.63
Port Alice	2 467	H	0.40	0.40
Port Hardy	5 283	H	0.95	0.95
Port McNeil	5 985	H	0.67	0.50
Gold River	2 314	DTC	0.43	0.43
Tahsis	1 445	DTC	0.69	-
Cortes Island	952	0	1.05	1.05
Sayward	874	0	1.14	—
<hr/>				
Cariboo			0.82	0.80
Quesnel	21 145	H	0.99	0.66
Bella Coola	2 901	H	1.21	1.03
Wagisla	1 521	H	1.97	1.97
100 Mile House	13 893	H	0.79	0.65
<hr/>				
Northwest			0.99	0.92
Terrace	17 628	H	1.19	1.02
Prince Rupert	19 197	H	1.04	0.99
Smithers	12 399	H	1.45	1.21
Hazelton	5 859	H	1.54	1.02
Kitimat	15 528	H	0.77	0.52
Masset	2 888	H	1.04	0.69
Queen Charlotte Islands	2 730	H	1.10	1.10
Stewart	2 526	H	0.79	0.79
Dease Lake	1 439	DTC	1.39	—
Houston	5 550	DTC	0.54	0.54
New Aiyansh	1 064	DTC	1.88	1.88

Kitwanga	1 013	0	0.99	0.99
Peace Liard			0.76	0.79
Dawson Creek	18 001	H	1.0	0.72
Fort St. John	27 028	H	0.67	0.59
Chetwynd	6 551	H	0.61	0.31
Fort Nelson	5 856	H	0.51	0.34
Hudson Hope	1 122	DTC	0.89	0.89
Tumbler Ridge	3 775	DTC	0.79	0.79
Northern interior			0.86	0.88
Burns Lake	6 753	H	0.74	0.74
Fort St. James	5 219	H	0.77	0.57
MacKenzie	6 614	H	0.91	0.76
McBride	1 759	H	0.57	0.57
Vanderhoof	8 180	H	0.86	0.73
Fraser Lake	3 541	DTC	0.56	0.56
Valemount	2 322	DTC		—
Capital			1.33	1.11
Outer Gulf Islands	4 491		1.56	0.45
i. Galiano		DTC		
ii. Mayne Island		0		
iii. Pender Island		0		
iv. Saturna		0		

H = hospital, DTC = diagnostic treatment centre, 0 = no hospital or diagnostic treatment centre.

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The occasional poor man's cricothyrotomy



Fig. 1

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The occasional poor man's cricothyrotomy



Fig. 2

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The occasional poor man's cricothyrotomy



Fig. 3

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The occasional poor man's cricothyrotomy



Fig. 4

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The occasional poor man's cricothyrotomy



Fig. 5

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The occasional poor man's cricothyrotomy



Fig. 6

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The occasional poor man's cricothyrotomy



Fig. 7

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Fig. 8

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