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Diabetes and Aboriginal vision health Le diabète et la santé oculaire des Autochtones



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Cover & page 9, photographs: Fred Cattroll.
 Fred, is a nationally recognized photographer, with an extensive list of clients, including the National Gallery of Canada, the New York Times, the Washington Post, and the National Arts Centre. His lifetime work of negatives, slides, prints and digital files, was recently requested by the Canadian Museum of Civilization. His work is regarded as a national treasure. A permanent exhibition of his work is in the First Peoples Hall at the Museum of Civilization.

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 **SAUFLON**

Celebrate Eye Health Month

Célébration du mois de la santé de l'œil

BY / PAR KIRSTEN NORTH, OD, PRESIDENT CAO

This issue of CJO includes a member 'toolkit' for October's Eye Health Month and the 2010 theme, Seeing Smart – Make your Child's First Exam an Eye Exam. The toolkit provides an overview of the national public relations campaign as well as ideas and resources for CAO members.

CAO members play an important role in making Eye Health Month a success. Promotion in your practice and community has a cumulative effect and complements what is done at a national and provincial level.

Your participation also supports your provincial association's effort to show that it has the most active

membership. By entering the 'Eye Dare You' contest, you also have the opportunity to win a prize.

Eye Health Month has been celebrated in Canada for the past 12 years. Prior to that, CAO celebrated Save Your Vision week during the same timeframe as the American Optometric Association campaign. The decision to adopt a month long program in October was made to differentiate Canadian Optometry and to have our 'own' campaign.

Eye Health Month has become firmly established on the health awareness calendar resulting in queries from the media, health units, and government agencies. It also has the unintended consequence of others within

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the eye care sector celebrating Eye Health Month as their own. While some may see this as an infringement, most see it as flattery that reflects the legitimacy of optometry's annual campaign.

This year's theme of children's vision is a natural choice. We can point to the need for comprehensive eye care for children, gaps in awareness and provincial coverage, and the important relationship between vision and learning. Provincial programs such as Eye See, Eye Learn can be profiled with pride.

To manage the campaign, CAO retained a Toronto based public relations firm. The cost of the campaign is supported by funds from Eye Health of Canada industry partners. In addition, CAO solicited the co-chairs of the National Public Education Committee and Children's Vision Committee to capably assist in the review of key messages and strategies. We also have a group of media spokespeople, many of whom have volunteered for this task each year. Thank you to all!

I encourage each of you to review the Eye Health Month toolkit and to participate in this year's campaign. Make us proud!

Le présent numéro de la RCO comprend une « trousse » pour les membres pour le Mois de la santé de l'œil en octobre et le thème de l'année 2010, Voir Prévoir – Faites vérifier la vue de votre enfant en bas âge. Cette trousse offre une présentation générale de la campagne nationale de relations publiques ainsi que des idées et des ressources pour les membres de l'ACO.

Les membres de l'ACO ont un rôle important à jouer pour assurer le succès du Mois de la santé de l'œil. Sa promotion dans votre cabinet et dans communauté a un effet conjugué et vient compléter les actions qui sont menées aux niveaux national et provincial.

Votre participation soutient également l'effort consenti par votre association provinciale pour afficher le plus grand nombre de membres actifs. En participant au concours « Je vous mets au défi », vous avez également la possibilité de gagner un prix.

Le Mois de la santé de l'œil est célébré au Canada depuis 12 ans. Auparavant, l'ACO célébrait la Semaine de la vision en même temps que la campagne de l'American Optometric Association. La décision d'adopter en octobre une programmation s'étendant sur tout le mois est guidée par votre volonté de différencier l'optométrie canadienne et de nous doter de notre « propre » campagne.

Les requêtes des médias, des unités sanitaires et des organismes gouvernementaux ont contribué à ancrer solidement le Mois de la santé de l'œil dans le calendrier des activités de sensibilisation à la santé oculaire. Le Mois de la santé de l'œil est également célébré par d'autres du secteur de la santé oculaire; une conséquence inattendue de ce succès. Si certains voient en cette appropriation un manque de respect, la plupart s'en estiment flattés et estiment que cela reflète la légitimité de la campagne annuelle de l'optométrie.

Le thème retenu cette année pour la vision des enfants s'est imposé de manière naturelle. Il va nous permettre d'attirer l'attention sur la nécessité de prodiguer aux enfants des soins oculo-visuels complets, de combler les écarts qui existent en matière de sensibilisation et de couverture au niveau provincial et de mettre en avant la relation essentielle entre la vision et l'apprentissage. Nous pourrions décrire avec fierté des programmes provinciaux comme Eye See, Eye Learn.

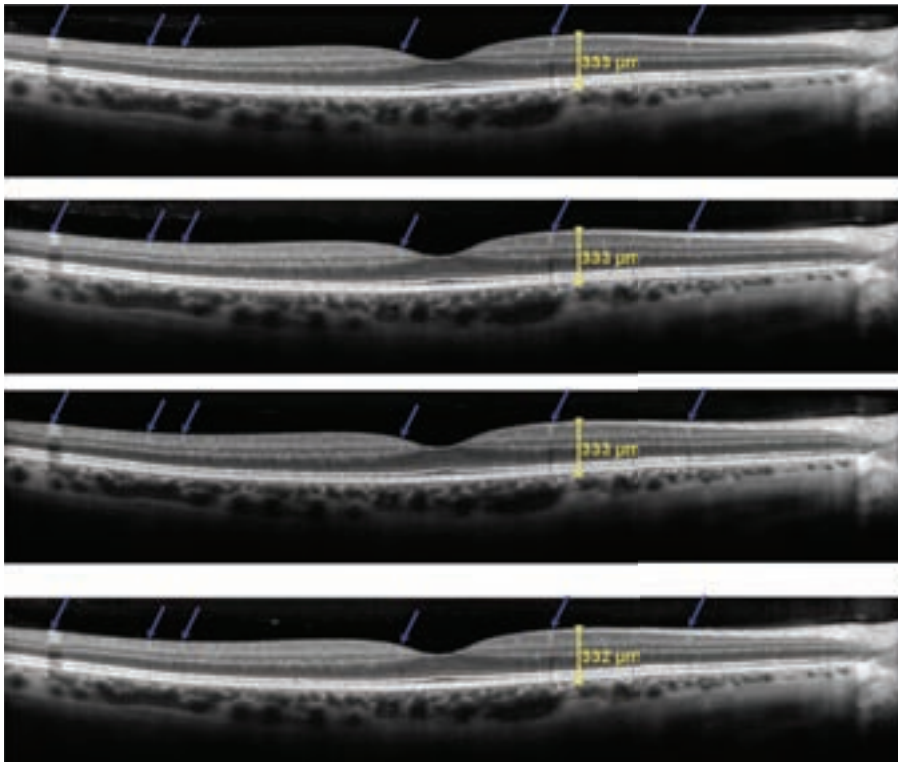
Pour gérer cette campagne, l'ACO a retenu les services d'une entreprise de relations publiques de Toronto. Cette campagne est supportée financièrement par des fonds provenant de partenaires de l'industrie de la santé oculaire au Canada. Par ailleurs, l'ACO a brigué les coprésidences du Comité national d'éducation publique et du Comité de la vision pour les enfants pour pouvoir contribuer à l'analyse des stratégies et des messages clés. Nous disposons également d'un groupe de porte-paroles auprès des médias, la plupart desquels se portent chaque année volontaires pour occuper cette tâche. Qu'ils en soient tous remerciés!!

J'invite chacun de vous à passer en revue la trousse du Mois de la santé de l'œil et à participer à la campagne de cette année. Nous devons en être fiers!

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October 22 – 24, 2010

The Vision Institute of Canada will be holding its Annual Fall Conference and Trade Show on October 22nd, 23rd, and 24th at the Hilton Suites Hotel in Markham, Ontario. This event will provide 20 hours of excellent continuing education including nine hours of TPA related lectures from Dr. Lou Catania, OD, Dr. Larry Alexander, OD, and Dr. David Chow, MD.

More importantly, this conference will also include a unique Aboriginal Vision Health Lecture Series on Friday, October 22nd which you are encouraged you to attend. Co-sponsored by the Canadian Association of Optometrists, this day of lectures for optometrists and staff is part of a special two day Aboriginal Vision Health Conference for Aboriginal health workers and policy makers to help raise awareness about the soaring rates of diabetes-related blindness facing Canada's native population. The National Collaborating Centre for Aboriginal Health has called this a conference of "national significance" for the Aboriginal community. It represents an opportunity for optometry to demonstrate its concern and readiness to respond to this emerging health crisis and, together with the Aboriginal community, develop a communication plan

to raise awareness of eye health among this population.

The Vision Institute has an extraordinary line-up of speakers, including Dr. Ann Macaulay, CM, MD, FCFP, who holds the Order of Canada for her work on Aboriginal health, and Dr. Jay Wortman, MD, a Metis physician from BC who is featured in the documentary *My Big Fat Diet*. Mr. Angus Toulouse, Ontario Regional Chief of the Assembly of First Nations will be one of many special guests attending from various aboriginal organizations to meet members of the optometry profession and to learn about eye health and the vision care services. The Aboriginal Peoples Television Network will be in attendance to document this conference and help deliver this eye health awareness message.

The Vision Institute has an ambitious plan to make 2011 Aboriginal Vision Health Awareness Year to help educate Aboriginal people with diabetes about the need for yearly comprehensive eye examinations. The importance of comprehensive eye exams for native children will also be promoted.



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The Vision Institute of Canada is a non-profit charitable organization dedicated to eye health education, research, and specialized clinical services. The funds we raise from our educational programs support the clinical and charitable work of the Institute.

Lecture Topics

SESSION 1

Improving Aboriginal Health: How Can Health Care Professionals Contribute?

Dr. Ann C. Macaulay, MD

Traditional Aboriginal Diets "My Big Fat Diet"

Dr. Jay Wortman, MD

SESSION 2

Diabetes: The Low-Carb Diet Debate "Good Calories, Bad Calories"

Mr. Gary Taubes

SESSION 3

Diabetic Retinopathy: Telemedicine and Remote Northern Communities

Dr. Alan Cruess, MD

SESSION 4

Understanding Diabetic Retinopathy

Dr. Chris Hudson, OD, PhD

Epidemiology of Vision Health Disorders in Aboriginal People

Dr. Barbara Robinson, OD, MPH, PhD

SESSION 5

Cultural Relevance in Eye Examinations

Dr. Graham Strong, OD, MS

Social Determinants in Aboriginal Diabetes

Dr. Jeffrey Reading, PhD

SESSION 6

Annual Meeting of the College of Optometrists of Ontario

with a special lecture by Dr. Marlee Spafford, OD, PhD

SESSION 7

Retinal Disease: From Nutrition to Genetics

Dr. David Chow, MD

SESSION 8 & 9

Glaucoma Diagnosis and Treatment

Dr. Larry Alexander, OD

SESSION 10 & 11:

Anterior Segment Disease and Treatment

Dr. Lou Catania, OD

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Diabetes and Aboriginal vision health

Le diabète et la santé oculaire des Autochtones

BY / PAR A. PAUL CHRIS, OD, VISION INSTITUTE OF CANADA

Canada is home to an Aboriginal population of over 1.2 million people, of whom 61% are First Nations, 34% are Métis (mixed native-European descent), and 5% are Inuit. These three distinct groups all have unique “local geographic and linguistic heritages, cultural practices and spiritual beliefs.” Slightly more than half live in urban areas but maintain strong connections to their communities of origin.¹ Although there has been an increase in the number of Aboriginal people living in urban areas, there has actually been a net migration back to First Nations communities in the last 40 years.² There are 615 native communities (reserves or bands) in Canada. British Columbia has the largest number of reserves at 198 followed by Ontario with 153. Ontario has more remote First Nations communities than any other region.

Aboriginal people make up 3.8% of the Canadian population, ranking second in the world to New Zealand, where the Maori people make up 15% of the population. In the United States and Australia, approximately 2% of the general population is Aboriginal.² According to the 2006 Aboriginal Census, Ontario has the largest native

population (243,000), followed by BC (196,000), Alberta (188,000), Manitoba (175,000), Saskatchewan (142,000), and Quebec (108,000). The remaining 25,000 live in the other provinces and territories.³

The Aboriginal community is also the largest growing segment of the Canadian population, increasing at a rate six times faster than non-Aboriginal people. Almost half the native population is below 25 years of age, compared to 40 years for the non-native population.

Aboriginal history in Canada reflects years of government forced assimilation and colonization efforts with the “appropriation of land and loss of traditional livelihoods.” The residential school system, established in 1892, resulted in the mandatory removal of children from their homes and their placement in boarding schools where they were “forbidden to speak their own languages.” Many suffered emotional, physical, and sexual abuse, turning to drugs and alcohol in later life to deal with their trauma. The attendant loss of self-esteem and the destruction of family bonds and parenting skills have caused a cultural shock resulting in ill health, poverty and family breakdown.⁴

One of the most significant consequences of the “psycho-social stress” associated with colonization and the loss of traditional foods and lifestyles is the epidemic of diabetes that is eroding the health and lives of Aboriginal people. The extent to which Aboriginal people have been affected is both complex and astonishing. This is a phenomenon affecting indigenous people worldwide. The long-term complications associated with diabetes, such as blindness, heart disease, kidney disease, infectious disease and amputations, are an emerging public health crisis.⁵

Before 1950, diabetes was rare in native communities.⁶ Diabetes was not detected in 1500 First Nations people who underwent a tuberculosis survey in Saskatchewan in 1937.⁷ Today twenty percent of the Canadian Aboriginal population lives with diabetes, a number that has doubled in the last two decades, most likely due to environmental (nutrition and lifestyle) factors.^{6,7} Across Canada, type 2 diabetes is three to five times higher in Aboriginal people than in the general population. According to a Saskatchewan study published in January 2010, the rate of diabetes among



Photo: Fred Cattroll

Aboriginal women of child-bearing age is four times greater than women in the general population. Native women also have much higher rates of gestational diabetes, which dramatically increases a woman's risk of developing diabetes later in life, and also makes her offspring more prone to the disease.⁷

Diabetes is the leading cause of adult blindness in Canada. According to one report, the rate of progression and severity of diabetic retinopathy, unlike kidney disease, is no greater in Aboriginal people than that of the general population.⁸ As recently as 2005, there was limited data on the prevalence of

diabetic retinopathy in Aboriginal Canadians. A study published that year involving the Sandy Lake First Nations community in Northern Ontario reported the following prevalence rates: non-proliferative diabetic retinopathy 24% (NPDR), macular edema (5%) and proliferative diabetic retinopathy 2% (PDR).⁹

These findings were consistent with an earlier study in 2002 by Maberley, et al.¹⁰ The authors of the 2005 study suggested that the relatively low prevalence rates of macular edema and PDR “possibly reflect low median duration of diabetes or the presence of protective genetic factors.”⁹

A more recent report from 2007, the Southern Alberta Study of Diabetic Retinopathy, showed that prevalence rates of diabetic retinopathy in type 2 diabetes in native and non-native subjects were identical, with a prevalence rate of 40%, “far higher” than the Sandy Lake study. Native subjects also tended to have more advanced retinopathy changes indicating that Aboriginal ethnicity does play a role in the severity of retinal complications.¹¹

Despite conflicting research, what is clear is that with the disproportionate and increasing number of native people with diabetes, and its occurrence at a much early age than the general

- 74 percent of people who have diabetes for 10 years or more will develop some form of diabetic retinopathy.
- Approximately 14 percent of people with diabetes have diabetic macular edema and prevalence increases to 29 percent for people with diabetes who use insulin for more than 20 years.
- Left untreated, 25 percent of people with diabetic macular edema will develop moderate vision loss within three years.
- Estimates of the rate of annual eye exams vary greatly by country and study, but the rate of screening is generally fairly low (from 40 to 65 percent).
- Worldwide guidelines (for people with diabetes) recommend annual screenings with a dilated eye exam from an eye care specialist.¹²

– International Diabetes Federation

population, diabetes will lead to a more significant burden of preventable vision loss in Aboriginal communities than in non-Aboriginal groups.

There are few statistics available to show the rate of annual dilated eye examinations being received by Aboriginal Canadians. If trends from other services are any indication, access to annual dilated eye exams for many Aboriginal people with diabetes is limited by geography and the availability of an optometrist or ophthalmologist. Several telemedicine projects using digital retinal cameras have been established but are not filling the need for the diagnostic vision care services that is required. There is also a lack of

published data on the relationships between diabetic retinopathy, macular edema severity and visual acuity.¹³

In the United States the National Eye Institute was created by Congress in 1968 as part of the National Institutes of Health. In 1991 it established the National Eye Health Education Program which released a report in 2004 titled: *American Indian and Alaska Native Diabetic Eye Disease Communication Plan*. This communication plan was designed to improve the eye health of American Indians and Alaska Natives with diabetes and to raise awareness about the importance of annual dilated eye exams in this population.¹⁴

An environmental scan produced in 2007 by the National Collaborating Centre on Aboriginal Health based at the University of Northern British Columbia, states:

“...a review of the international literature suggests that Canada is well behind other countries in addressing Aboriginal eye health and vision care services. Both the United States and Australia have developed innovative, Aboriginal specific, community-controlled programs and promotional material...”¹⁵

Canada has a larger native population, by percentage, than the United States but is indeed well behind in addressing the Aboriginal vision health issues that are becoming an emerging public health crisis. More Canadian funding and research are required to fill the gap in scientific knowledge about

Aboriginal vision health.

Optometry, its partners and professional organizations, need to work with Aboriginal people and their organizations to create an effective Canadian communication strategy to help educate Aboriginal health care workers and eye care professionals about Aboriginal eye health issues and the importance of annual dilated eye exams for native Canadians living with diabetes.

- 1 Macaulay AC. Improving aboriginal health: How can health care professional contribute? *Can Fam Phys*. Vol. 55: April 2009
- 2 Bailey S; Native population growing. *The Canadian Press*; Jan 15, 2008
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- 7 Dyck R, et al. Epidemiology of diabetes mellitus among First Nations and non-First Nations adults. *CMAJ* February 23, 2010 182(3)
- 8 Harris SB. Diabetes in indigenous peoples: Program and abstracts of the American Diabetes Association 66th Scientific Sessions; June 9-13, 2006; Washington, DC.
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“ ... a review of the international literature suggests that Canada is well behind other countries in addressing Aboriginal eye health and vision care services. Both the United States and Australia have developed innovative, Aboriginal specific, community-controlled programs and promotional material. ”

factors. *Diabetes Care*; August 2005 Vol 28 no. 8 2054-2057

- 10 Maberley D, et al. Digital photographic screening for diabetic retinopathy in the James Bay Cree. *Ophthalmic Epidemiol* 9: 169-178, 2002
- 11 Ross SA, et al. Diabetic Retinopathy in Native and Nonnative Canadians. *Exp Diab Res*. Vol 2007: Article ID 76271
- 12 International Diabetes Federation. <http://www.idf.org/international-diabetes-federation> website accessed July 15, 2010.
- 13 Tucker D, et al. Investigation the links between diabetic retinopathy, macular edema severity and visual acuity in patients with diabetes. *Expert Review of Ophthalmology*; Dec 2008 Vol 3 No 6 (673-688)
- 14 National Eye Health Education Program: American Indian and Alaska Native Diabetic Eye Disease Communication Plan. US Department of Health and Human Services: National Eye Institute; January 2004
- 15 Atkinson DL. *Preschool Vision Screening and Aboriginal Eye Health: An Environmental Scan and Literature Review*. BC Initiatives; April 2007

Le Canada compte une population autochtone qui dépasse 1,2 million de personnes parmi lesquelles 61 % sont des membres des Premières nations, 34 % des Métis (personnes de descendance mixte autochtone-européenne) et 5 % des Inuits. Ces trois groupes distincts présentent

tous des « héritages linguistiques et géographiques régionaux, des pratiques culturelles et des croyances spirituelles » qui leur sont propres. Un peu plus de la moitié d'entre eux vivent dans des régions urbaines et entretiennent des liens étroits avec leur communauté d'origine(1). Bien que le nombre d'Autochtones vivant en région urbaine s'accroisse, les dernières 40 années ont été marquées par un solde migratoire positif en faveur des communautés des Premières nations.² Le Canada compte 615 communautés autochtones (réserves ou bandes). La Colombie-Britannique est la province qui compte le plus grand nombre de réserves (198) devant l'Ontario (153). L'Ontario a davantage de communautés de Premières nations isolées que toutes les autres régions.

Les Autochtones représentent 3,8 % de la population canadienne, un chiffre qui les classe au second rang mondial devant la Nouvelle-Zélande où le peuple Maori représente 15 % de la population. Aux États-Unis et en Australie, environ 2 % de la population générale est autochtone.² Selon le recensement sur les Autochtones de 2006, l'Ontario est la province qui abrite la plus grande population autochtone (243 000), suivie par la Colombie-Britannique (196 000), l'Alberta (188 000), le

Manitoba (175 000), la Saskatchewan (142 000) et le Québec (108 000). Le restant de cette population (25 000) dans d'autres provinces et territoires.³

La collectivité autochtone est également le segment de la population canadienne ayant la plus forte croissance, avec un taux six fois plus rapide que celui des personnes non autochtones. Près de la moitié de la population autochtone a moins de 25 ans, un chiffre à confronter aux 40 ans de la population non autochtone.

L'histoire des Autochtones au Canada est liée à des années d'assimilation forcée et à des entreprises de colonisation menées par le gouvernement qui ont conduit à « l'appropriation de leurs territoires et la perte de leurs moyens de subsistance ». Le système de pensionnat, mis en place en 1892, s'est traduit par des mesures contraignantes comme l'enlèvement des enfants de leur foyer et leur placement dans des pensionnats où il leur était « interdit de parler leur propre langue ». Nombre d'entre eux ont souffert de violences psychologique, physique et sexuelle et se sont tournés plus tard dans leur vie vers la consommation de drogues ou d'alcool pour pouvoir surmonter ces traumatismes. Les pertes d'estime de soi, la destruction des liens familiaux et la détérioration des

compétences parentales que tout cela suppose ont provoqué un choc culturel, à l'origine de problèmes de santé, de la pauvreté et de l'éclatement familial.⁴

L'une des conséquences marquantes de ce « stress psychosocial », qui s'ajoute aux effets de la colonisation et à la perte des nourritures traditionnelles et des modes de vie, est l'épidémie de diabète qui mine la santé et la vie des Autochtones. Il est stupéfiant de constater à quel point les Autochtones ont été touchés par cette épidémie dont les causes sont complexes. Il s'agit d'un phénomène qui affecte tous les peuples autochtones dans le monde. Les complications à long terme associées au diabète, comme la cécité, les cardiopathies, les néphropathies, les maladies infectieuses et les amputations, constituent une situation de crise naissante en termes de santé publique.⁵

Avant 1950, le diabète restait une affection rare dans les communautés autochtones.⁶ Le diabète n'a d'ailleurs pas été détecté parmi les 1 500 membres des Premières nations qui firent l'objet d'un suivi de la tuberculose en Saskatchewan en 1937.⁷ Aujourd'hui, c'est 20 % de la population autochtone canadienne qui vit avec le diabète, un pourcentage qui a doublé au cours des deux dernières décennies, vraisemblablement en raison de facteurs environnementaux (la nutrition et le style de vie).^{6,7} Partout au Canada, on constate que le taux de diabète de type 2 est de trois à cinq fois plus élevé chez les Autochtones que dans la

population générale. Selon une étude réalisée en Saskatchewan et publiée en janvier 2010, le taux de diabète chez les femmes autochtones en âge de procréer est quatre fois supérieur à celui des femmes de la population générale. Les femmes autochtones présentent également des taux de diabète gestationnel bien supérieurs, lesquels augmentent de façon spectaculaire le risque pour une femme de voir se développer un diabète plus tard au cours de sa vie, mais aussi de rendre sa descendance plus encline à cette maladie.⁷

Le diabète est la cause principale de la cécité chez l'adulte au Canada. Selon une étude, la vitesse de progression et la sévérité de la rétinopathie diabétique, contrairement aux néphropathies, ne serait pas plus grande parmi les Autochtones que dans la population générale.⁸ Pas plus tard qu'en 2005, on ne disposait que de peu de données sur la prévalence de la rétinopathie diabétique chez les Autochtones du Canada. Une étude publiée cette année sur la communauté de Premières nations Sandy Lake, située dans le Nord de l'Ontario, a révélé les taux de prévalence suivants : 24 % pour la rétinopathie diabétique non proliférante (RDNP), 5 % pour l'œdème maculaire et 2 % pour la rétinopathie diabétique proliférante (RDP).⁹

Ces résultats correspondent à ceux d'une étude antérieure menée en 2002 par Maberley et coll.¹⁰ Les auteurs de l'étude de 2005 ont avancé l'hypothèse que les taux de prévalence relativement bas en matière d'œdème maculaire et de

RDP « pouvaient refléter de courtes durées moyennes de diabète ou la présence de facteurs de protection génétique ».⁹

Un rapport plus récent datant de 2007 (Southern Alberta Study of Diabetic Retinopathy) a montré que le taux de prévalence de la rétinopathie diabétique chez les sujets autochtones et non autochtones atteints d'un diabète de type 2 était équivalent dans ces deux populations, soit 40 %, un taux « bien supérieur » à celui révélé par l'étude de la communauté Sandy Lake. Les sujets autochtones sont également plus enclins à présenter des évolutions de rétinopathie plus rapides, ce qui montrerait que leur origine ethnique joue un rôle dans la gravité des complications rétinienues.¹¹

En dépit de résultats de recherche contradictoires, il est désormais clair que l'on fait face à un nombre croissant et disproportionné de personnes autochtones atteintes du diabète et, d'autre part, que cette maladie survient à un stade bien plus précoce que dans la population générale; on sait en outre que le diabète va entraîner davantage de cas évitables de perte de vision, au sein des communautés autochtones que dans les groupes non autochtones.

Il existe peu de statistiques qui rendent compte du taux annuel d'examen de la vision à pupille dilatée dont bénéficient les Autochtones canadiens. Si les tendances qui émanent d'autres services sont de quelques enseignements, force est de constater que l'accès de nombreux Autochtones atteints de diabète aux examens annuels de la

- 74 % des personnes atteintes de diabète depuis au moins 10 ans vont développer une forme quelconque de rétinopathie diabétique.
- Environ 14 % des personnes atteintes de diabète présentent des œdèmes maculaires d'origine diabétique; cette prévalence s'accroît à 29 % pour les personnes atteintes de diabète qui utilisent l'insuline depuis plus de 20 ans.
- Sans traitement, 25 % des personnes qui souffrent d'un œdème maculaire d'origine diabétique développeront une perte de vision modérée d'ici à trois ans.
- Les estimations qui ont été réalisées sur les taux annuels d'examen de la vision varient de manière importante selon les pays et les études, mais le taux de dépistage est généralement assez bas (de 40 à 65 %).
- Les lignes directrices mondiales en la matière recommandent de procéder à des dépistages annuels en faisant passer aux personnes atteintes de diabète un examen de la vision à pupille dilatée, conduit par un spécialiste des soins ophtalmologiques.¹²

– Fédération internationale du diabète

vision à pupille dilatée est limité par la situation géographique et la disponibilité d'un optométriste ou d'un ophtalmologiste. Plusieurs projets de télémédecine s'appuyant sur l'utilisation de caméras rétinienne numériques ont été mis en place, mais ils ne suffisent pas encore à combler le besoin en services de diagnostic et de soins de la vue. Peu de données ont en outre été publiées sur les liens entre la rétinopathie diabétique, la gravité des œdèmes

maculaires et l'acuité visuelle.¹³

Aux États-Unis, le Congrès a créé en 1968 le National Eye Institute comme entité du National Institutes of Health. En 1991, cet institut a mis en place le National Eye Health Education Program qui a publié en 2004 un rapport intitulé : American Indian and Alaska Native Diabetic Eye Disease Communication Plan. Ce plan de communication a été élaboré pour améliorer la santé oculaire des Indiens d'Amérique et des Autochtones de l'Alaska atteints par le diabète et pour sensibiliser davantage ces populations à l'importance de subir un examen annuel de la vision à pupille dilatée.¹⁴

Voilà ce qu'affirme une analyse de la conjoncture réalisée en 2007 par le Centre de collaboration de la santé autochtone abrité par l'University of Northern British Columbia :

« ...une analyse de la littérature internationale conduit à penser que le Canada se situe loin derrière d'autres pays en ce qui concerne la prestation de services de santé oculaire et de soins de la vue aux Autochtones. Les États-Unis et l'Australie ont tous deux élaborés des programmes novateurs, dédiés aux Autochtones et gérés par les communautés; ils ont également conçus des documents de promotion... »¹⁵

Bien que le Canada compte une population autochtone plus grande qu'aux États-Unis, il se situe bien derrière son voisin dans le règlement des problèmes de santé oculaire des Autochtones qui sont en voie de deve-

nir de nouveaux problèmes de santé publique. Le Canada doit mobiliser davantage de fonds et consentir plus d'efforts de recherche pour combler son écart en matière de connaissance scientifique sur la santé oculaire des Autochtones. Le secteur de l'optométrie, ses partenaires et les organisations professionnelles doivent travailler de concert avec les Autochtones et leurs organisations pour développer une stratégie de communication canadienne plus efficace. Il s'agit d'aider à sensibiliser les travailleurs autochtones en soins de santé, ainsi que les professionnels des soins ophtalmologiques aux problèmes de santé des Autochtones et à l'importance de faire passer un examen annuel de la vision à pupille dilatée aux Canadiens autochtones souffrant du diabète.

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TARGET SEASONAL ALLERGIC CONJUNCTIVITIS with **ALREX**[®]

Treat the Signs and Symptoms

- ALREX[®] treats the signs and symptoms of seasonal allergic conjunctivitis¹
- Proven efficacy with an excellent safety profile¹
- Available in 5 mL bottles

ALREX[®] (loteprednol etabonate) Ophthalmic Solution 0.2% is indicated for temporary short-term relief of the signs and symptoms of seasonal allergic conjunctivitis.

Alrex[®] is for ophthalmic, short-term use only (up to 14 days). If Alrex[®] is used for 10 days or longer, intraocular pressure should be monitored.

Alrex[®] is contraindicated in suspected or confirmed infections of the eye: viral diseases of the cornea and conjunctiva including epithelial *herpes simplex* keratitis (dendritic keratitis), vaccinia, and varicella; untreated ocular infection of the eye; mycobacterial infection of the eye and fungal diseases of ocular structures; hypersensitivity to this drug or any ingredient in the formulation or container, or to other corticosteroids.

Reactions associated with ophthalmic steroids include elevated intraocular pressure, which may be associated with optic nerve damage, visual acuity and field defects, posterior subcapsular cataract formation, secondary ocular infection from pathogens including *herpes simplex*, and perforation of the globe where there is thinning of the cornea or sclera.

In clinical studies, adverse events related to loteprednol etabonate were generally mild to moderate, non-serious and did not interrupt continuation in the studies. The most frequent ocular event reported as related to therapy was increased IOP: 6% (77/1209) in patients receiving loteprednol etabonate, as compared to 3% (25/806) in the placebo treated patients.

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References: 1. ALREX Product Monograph, December 22, 2008



Pr Alrex[®]
loteprednol etabonate
ophthalmic suspension 0.2% w/v

Prescribing Summary

Patient Selection Criteria

THERAPEUTIC CLASSIFICATION

Corticosteroid

INDICATIONS AND CLINICAL USE

Alex[®] (loteprednol etabonate) Ophthalmic Suspension is indicated for temporary short-term relief of the signs and symptoms of seasonal allergic conjunctivitis

CONTRAINDICATIONS

Suspected or confirmed infection of the eye: viral diseases of the cornea and conjunctiva including epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella; untreated ocular infection of the eye; mycobacterial infection of the eye and fungal diseases of ocular structures; hypersensitivity to this drug or any ingredient in the formulation or container, or to other corticosteroids.

SPECIAL POPULATIONS

Use in Pediatrics (< 18 years of age):

Alex[®] should not be used in pediatric patients.

Use in Geriatrics:

Alex[®] should not be used in geriatric patients. The safety and efficacy of Alex[®] have not been established in patients > 65 years of age.

Pregnant Women:

Alex[®] should not be used in pregnant women, unless the benefit clearly outweighs the risks. Studies in pregnant women have not been conducted.

Nursing Women:

Alex[®] should not be used in lactating women, unless the benefit clearly outweighs the risks.

Safety Information

WARNINGS AND PRECAUTIONS

General

For ophthalmic, short-term use only (up to 14 days).

The initial prescription and renewal of Alex[®] should be made by a physician only after appropriate ophthalmologic examination is performed. If signs and symptoms fail to improve after two days, the patient should be re-evaluated. If Alex[®] is used for 10 days or longer, intraocular pressure should be closely monitored.

Prolonged use of corticosteroids may result in cataract and/or glaucoma formation.

Alex[®] should not be used in the presence of glaucoma or elevated intraocular pressure, unless absolutely necessary and close ophthalmologic monitoring is undertaken. Extreme caution should be exercised, and duration of treatment should be kept as short as possible.

Alex[®] should not be used in cases of existing (suspected or confirmed) ocular viral, fungal, or mycobacterial infections. Alex[®] may suppress the host response and thus increase the hazard of secondary ocular infections. The use of Alex[®] in patients with a history of herpes simplex requires great caution and close monitoring.

Alex[®] contains benzalkonium chloride.

Alex[®] has not been studied in pregnant or nursing women, but has been found to be teratogenic in animals. Alex[®] should not be used in pregnant or nursing women unless the benefits clearly outweigh the risks.

Carcinogenesis and Mutagenesis

Long-term animal studies have not been conducted to evaluate the carcinogenic potential of loteprednol etabonate. Loteprednol etabonate was not genotoxic *in vitro* in the Ames test, the mouse lymphoma tk assay, or in a chromosome aberration test in human lymphocytes, or *in vivo* in the single dose mouse micronucleus assay.

Ophthalmologic

Alex[®] should be used as a brief temporary treatment. If Alex[®] is used for 10 days or longer, intraocular pressure should be closely monitored. The initial prescription and renewal of Alex[®] should be made by a physician only after appropriate ophthalmologic examination is performed, ie. slit lamp biomicroscopy or fluorescein staining if appropriate. If signs and symptoms fail to improve after two days, the

patient should be re-evaluated.

Prolonged use of corticosteroids may result in glaucoma with damage to the optic nerve, defects in visual acuity and fields of vision, and in posterior subcapsular cataract formation. Alex[®] should not be used in the presence of glaucoma or elevated intraocular pressure, unless absolutely necessary and careful and close appropriate ophthalmologic monitoring (including intraocular pressure and lens clarity) is undertaken.

Corneal fungal infections are particularly prone to develop coincidentally with long-term local steroid application. Fungus invasion must be considered in any persistent corneal ulceration involving steroid use. Fungal cultures should be taken when appropriate.

Prolonged use of corticosteroids may suppress the host response and thus increase the hazard of secondary ocular infections. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of topical steroids. In acute purulent conditions of the eye, steroids may mask infection or enhance existing infection.

Use of ocular steroids may prolong the course and may exacerbate the severity of many viral infections of the eye (including herpes simplex). Employment of a corticosteroid medication in the treatment of patients with a history of herpes simplex requires great caution.

Formulations with benzalkonium chloride should be used with caution in soft contact lens wearers.

ADVERSE REACTIONS

Overview

Reactions associated with ophthalmic steroids include elevated intraocular pressure, which may be associated with optic nerve damage, visual acuity and field defects, posterior subcapsular cataract formation, secondary ocular infection from pathogens including herpes simplex, and perforation of the globe where there is thinning of the cornea or sclera.

In nineteen clinical trials ranging from 1 to 42 days in length, 1,209 patients received various concentrations of loteprednol etabonate in topical ocular drops (0.005%, 0.05%, 0.1%, 0.2%, 0.5%). Adverse events related to loteprednol etabonate were generally mild to moderate, non-serious and did not interrupt continuation in the studies. The most frequent ocular event reported as related to therapy was increased IOP: 6% (77/1209) in patients receiving loteprednol etabonate, as compared to 3% (25/806) in the placebo treated patients.

With the exception of elevations in IOP, the incidence of events in the LE group was similar to, or less than that of the placebo control groups. Itching was reported as related to therapy in 3% of the loteprednol treated eyes, injection, epiphora, burning/stinging other than at instillation, foreign body sensation, and burning/stinging at instillation were each reported for 2% of eyes. The most frequent non-ocular event reported as related to therapy was headache, reported for 1.2% of the loteprednol treated subjects and 0.6% of the placebo treated subjects.

To report an adverse event, contact your Regional Adverse Reaction Monitoring Office at 1-866-234-2345 or Bausch & Lomb at 1-888-459-5000

Administration

One drop instilled into the affected eye(s) four times daily for up to 14 days. If scheduled dose is missed, patient should be advised to wait until the next dose and then continue as before.

SHAKE VIGOROUSLY BEFORE USING. Alex[®] should be stored upright between 15°-25°C for up to 28 days after first opening.

The preservative in Alex[®], benzalkonium chloride, may be absorbed by soft contact lenses, and can discolour soft contact lenses. Therefore, Alex[®] should not be used while the patient is wearing soft contact lenses. Patients who wear soft contact lenses and whose eyes are not red should wait ten to fifteen minutes after instilling Alex[®] before they insert their contact lenses.

Patients should be advised not to wear a contact lens if their eye is red. Alex[®] should not be used to treat contact lens related irritation.

SUPPLEMENTAL PRODUCT INFORMATION

WARNINGS AND PRECAUTIONS

Sexual Function/Reproduction

The effects of Alex[®] on sexual function and reproduction have not been studied in humans. Treatment of male and female rats with up to 50 mg/kg/day and 25 mg/kg/day of loteprednol etabonate, respectively, (1000 and 500 times the Alex[®] clinical dose) prior to and during mating, was clearly harmful to the rats, but did not impair their copulation

performance and fertility (i.e., ability of female rats to become pregnant). However, these doses were highly toxic and had significant toxic effects on the pregnancies, and the survival and development of the offspring. Maternal toxicity, possible occurrence of abnormalities and growth retardation started at 10 times the Alex® clinical dose.

Neurologic

Disturbances and suppression of the Hypothalamic-Pituitary-Adrenal (HPA) axis can occur with systemic exposure to corticosteroids. However, given the very low systemic exposure to loteprednol etabonate when using Alex® as directed, these possible effects are not likely.

Endocrine and Metabolism

Glucocorticoids, mostly when systemic exposure occurs, decrease the hypoglycemic activity of insulin and oral hypoglycemics, so that a change in dose of the antidiabetic drugs may be necessitated. In high doses, glucocorticoids also decrease the response to somatotropin. The usual doses of mineralocorticoids and large doses of some glucocorticoids cause hypokalemia and may exaggerate the hypokalemic effects of thiazides and high-ceiling diuretics. In combination with amphotericin-B, they also may cause hypokalemia. Glucocorticoids appear to enhance the ulcerogenic effects of non-steroidal anti-inflammatory drugs. They decrease the plasma levels of salicylates, and salicylism may occur on discontinuing steroids. Glucocorticoids may increase or decrease the effects of prothrombopenic anticoagulants. Estrogens, phenobarbital, phenytoin and rifampin increase the metabolic clearance of adrenal steroids and hence necessitate dose adjustments.

However, given the very low systemic exposure to loteprednol etabonate when using Alex® as directed, these possible effects are not likely.

Immune

Cortisol and the synthetic analogs of cortisol have the capacity to prevent or suppress the development of the local heat, redness, swelling, and tenderness by which inflammation is recognized. At the microscopic level, they inhibit not only the early phenomena of the inflammatory process (edema, fibrin deposition, capillary dilation, migration of leukocytes into the inflamed area, and phagocytic activity) but also the later manifestations, such as capillary proliferation, fibroblast proliferation, deposition of collagen, and, still later, cicatrization.

Clinical Trial Adverse Drug Reactions

Possibly or probably related adverse events from two Phase III studies are listed below:

	Alex® 0.2% N = 133	Placebo N = 135
SPECIAL SENSES (EYE DISORDERS)		
Intraocular Pressure		
- elevation of 6 to 9mm Hg*	2% to 12%*	0% to 6%*
- elevation of ≥10mm Hg	1 (1%)	1 (1%)
Chemosis	6 (5%)	7 (5%)
Vision, Abnormal or Blurred	4 (3%)	5 (4%)
Burning/Stinging, on instillation	3 (2%)	6 (4%)
Itching Eye	3 (2%)	3 (2%)
Dry Eye	2 (2%)	4 (3%)
Burning/Stinging, not on instillation	2 (2%)	2 (1%)
Epiphora	1 (1%)	9 (7%)
Discharge	1 (1%)	3 (2%)
Foreign Body Sensation	1 (1%)	1 (1%)
Discomfort Eye	1 (1%)	0 (0%)
Injection	1 (1%)	0 (0%)
Eye Pain	1 (1%)	0 (0%)
Sticky Eye	0 (0%)	7 (5%)
Erythema Eyelids	0 (0%)	2 (1%)
Eye Disorder	0 (0%)	2 (1%)
BODY AS A WHOLE		
Face Edema (Head)	1 (1%)	0 (0%)
Allergic Reaction	1 (1%)	0 (0%)
MUSCULOSKELETAL SYSTEM		
Twitching	0 (0%)	1 (1%)

* for IOP increase of 6 to 9 mm Hg, please see below

One patient in the Alex® group and one patient in the placebo group experienced increases in IOP of ≥10 mm Hg. Among these, one in each group had an IOP increase of ≥15 mm Hg, reaching IOP values over 30 mm Hg. In both studies, there were more patients with IOP increases of 6 to 9 mm Hg in the Alex® group than in the placebo group (see table below). In study A, among the patients with IOP increases of 6 to 9 mm Hg, four reached an IOP value of 22 to 23 mm Hg, and one patient reached 29 mm Hg and was discontinued (clinically significant increase in IOP). All these five patients were from the Alex® groups.

Incidence of IOP increases of 6 to 9 mm Hg from baseline
(number of patients and percentages)

	Duration of treatment		
	Day 7	Day 14	Day 28
Alex®			
Study-A	6 (9%)	6 (9%)	8 (12%)
Study-B	3 (5%)	1 (2%)	4 (6%)
Placebo			
Study-A	0 (0%)	4 (6%)	1 (2%)
Study-B	0 (0%)	0 (0%)	0 (0%)

Due to the sample size for each arm of the two phase III studies in SAC, all events captured are greater than 1% of n.

SYMPTOMS AND TREATMENT OF OVERDOSAGE

For management of suspected accidental oral ingestion or drug overdose, consult your regional poison control centre. No cases of overdose have been reported. Full Product Monograph available for health professionals at: <http://www.bausch.ca>

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Aboriginal preschool vision screening in BC – closing the health gap

BY DONNA L. ATKINSON, MA., NATIONAL COLLABORATING CENTRE FOR ABORIGINAL HEALTH



The value of early childhood screening for vision disorders is based on the recognition that 5% to 10% of preschool age children experience vision problems that, if left untreated, can result in permanent vision loss and adverse social and educational development.¹ Although common vision disorders such as amblyopia, strabismus, and refractive errors are preventable or reversible with early diagnosis and treatment, a systematic approach to identifying vision disorders in preschool age children is lacking in Canada.^{2,3} To optimize this criti-

cal period of early childhood development, the Province of British Columbia implemented a universal vision screening program in 2007 to identify and facilitate treatment for preschool and/or kindergarten age children with vision defects.⁴ Consistent with the commitments of the 2006 *Transformative Change Accord: First Nations Health Plan (TCA: FNHP)* to close the health gap between Aboriginal peoples and the rest of BC's population, additional supports were allocated to ensure all Aboriginal children on and off-reserve in BC receive vision screening.

The purpose of this short review is to identify some of the critical knowledge and knowledge gaps in Aboriginal children's eye health and vision care services to support Aboriginal vision screening in BC and ensure Aboriginal children get the best possible start in life. It begins with description of BC's Aboriginal population including demographics and health status. The impact of social determinants of Aboriginal health is then discussed with specific reference to the determinants of vision health. It concludes with a brief overview of some of the work conducted to date in Aboriginal children's vision as part of the National Collaborating Centre for Aboriginal Health's (NCCA) vision screening initiative.^a

a. The NCCA's Aboriginal Vision Screening initiative is funded by a grant from the Province of British Columbia and is hosted by the University of Northern BC in Prince George. The views presented in this paper are those of the author and do not represent those of the host or partner agencies.

A note on terminology

Aboriginal peoples are the descendants of the original inhabitants of North America. Canada's *Constitution Act* (1982) recognizes three distinct groups of Aboriginal peoples: Indian, Inuit, and Métis. The term First Nations includes both Status and non-Status Indians. Status Indians are registered by the Federal government and governed by the *Indian Act* (1876). Non-Status Indians are not registered or governed by the *Indian Act*.⁵ Inuit are a distinct population of Aboriginal peoples that reside primarily in the Canadian North and were registered under a revision to the *Indian Act* in 1924. Métis means a person of mixed First Nations and European ancestry who self-identifies as Métis and whose ancestors resided in the historic Métis Nation homeland. The Métis people are not entitled to the provisions of the *Indian Act*.⁵

Methods

A broad search of academic articles and published grey literature (i.e. government and non-governmental technical reports and papers) was conducted to identify critical knowledge and knowledge gaps related to Aboriginal eye health, vision care, and the social determinants of health. The search terms Aboriginal, First Nation, Métis, Inuit, Native, Native American, and Indigenous were used in combina-

tion with eye and vision care, preschool vision screening, visual impairment, refractive error, myopia, hyperopia, astigmatism, amblyopia, strabismus, social determinants, and determinants of health. The review included international, national, and provincial literature but was limited to English language publications from 1970 to present.

Limitations of this review include significant gaps in the coverage and quality of Aboriginal health research in Canada. With respect to coverage, the absence or inconsistency of First Nations, Inuit, and Métis identifiers in most health data systems (vital registries, primary care and hospital records, and surveillance systems) results in certain subpopulations being systematically excluded from health data collection.⁶ The multi-jurisdictional nature of Aboriginal health systems (federal, provincial/territorial, health region, Aboriginal governing authority or a combination) similarly poses a problem with data collection and analysis varying according to Aboriginal ethnicity and geography.⁶ Key data quality challenges have also been identified including the use of substandard data sources and/or the application of substandard methods in Aboriginal health data work.⁶

Aboriginal demographics for BC

British Columbia is home to the second largest Aboriginal population in Canada. According to the Aboriginal Peoples 2006 Census, there are 196,075 Aboriginal peoples in BC, which is roughly 5% of the total population of the province. First Nations constitute the vast majority of BC's Aboriginal population (129,580 or 66%), followed by Métis (59,445 or 30%), Inuit (795 or 0.4%), multiple Aboriginal identity (1655 or 0.8%), and other Aboriginal peoples not included in the other categories (4605 or 2.3%).⁷ Aboriginal peoples in BC are much younger than the BC population as a whole with approximately 28% under 14 years of age compared to 16% of the non-Aboriginal population.⁸ In 2006, there were 16,195 Aboriginal children between 0 to 4 years of age and 18,005 Aboriginal children between 5-9 years of age in BC.⁹ BC's Aboriginal population is also growing at a faster rate than the rest of the province, primarily because of its younger population and higher birth rates. Between 2001 and 2006, the Aboriginal population increased by 15% which is more than three times the rate of the non-Aboriginal population in BC.⁷ The Métis population in BC grew at a much faster rate (132%) between 1996 and 2006 compared to the First Nations population (18%) and

Inuit population (7%).¹⁰ The Aboriginal population is geographically dispersed across the province with the highest percentage residing in the Northern Health Authority (24.5%) followed by Interior Health Authority (22.9%), Vancouver Island Health Authority (20.7%), Fraser Health Authority (19.4%), and Vancouver Coastal Health Authority (12.5%) respectively.⁸ In 2006, approximately 74% of Aboriginal people in BC lived off-reserve.⁸

Health status of Aboriginal children

Aboriginal peoples in Canada bear a disproportionate burden of ill-health compared to the non-Aboriginal population with significantly higher rates of infectious and chronic diseases, disability, and premature death.¹¹⁻¹² Aboriginal children are among the most vulnerable. In the 2009 Canadian Supplement to the State of the World's Children, UNICEF reported that in almost all child health status indicators and health determinants, Aboriginal children in Canada fall well below the national averages for Canadian children.¹³ Although there are large gaps in the health information available for Aboriginal children in Canada – notably vital registration data, health care utilization data, and data specific to Métis children, Non-Status First Nations children, and Aboriginal children living in urban areas – the existing data suggests that

Aboriginal children experience higher rates of infant mortality, sudden infant death syndrome, injury, accidental death, suicide, ear infections, respiratory tract illness, dental caries, and increased exposure to environmental contaminants including tobacco smoke.^{8, 14-15} For vision impairment specifically, national data from the 2006 Aboriginal Children's Survey and the 2002/03 First Nations Regional Health Survey indicates that 11% of First Nations (off-reserve) and Métis children, between six and 14 years of age, suffer from visual impairments. Approximately 5% of Inuit children, aged six to 14 years, experience visual impairment.¹⁵

Despite these high visual impairment rates, significant knowledge gaps exist with respect to the types of vision disorders affecting Aboriginal children, their ability to access proper eye care services, and the potential impacts of vision impairments on Aboriginal children's learning and development. For example, in a 2006 scan by Health Canada on Aboriginal child health research, ninety peer-reviewed journal articles were identified over a ten year period (1996 to 2005) none of which

examined visual impairment or diseases of the eye among Aboriginal children.¹⁶ The research from this period was also not found to be reflective of Aboriginal peoples geographic distribution in Canada,^b location (on/off reserve, urban), or identity relative to their share in Canada's overall population.^c The distribution of research across age categories was similarly problematic with an emphasis on infants (0-2 years of age), but very little research on preschoolers.¹⁶

Social determinants of vision health

The social determinants of health are the “conditions in which people are born, grow, live, work, and age – conditions that together provide the freedom people need to live lives they value”.¹⁷⁻¹⁸ These conditions are shaped by the distribution of money, power, and resources at the global, national, and local levels and their relationship to health is graded: “the lower an individual's socioeconomic status, the worse their health”.¹⁹

The underlying causes of Aboriginal health disparities in Canada are rooted in the classic social determinants – food, shelter, education, employment and income – as well as a myriad of indigenous-specific determinants such as colonization, systemic racism, social exclusion, loss of language and culture, migration, disconnection from the land, inter-generational trauma, and

b Aboriginal children in Quebec were over-represented in the literature

c First Nations children have been most often studied (62%). Inuit children were over-represented in the literature, while Métis were under-represented with only one research article.

“...Social disadvantage and racial or ethnic differences have been shown to influence prevalence and risk factors for common vision conditions as well as access to and quality of vision care.”

geographical and jurisdictional barriers to accessing health services.^{12,20} The impact of social determinants manifests differently among Canada's various Aboriginal peoples and contributes to different, undesirable health outcomes at each stage of life.²¹ Vision health is no exception. Social disadvantage and racial or ethnic differences have been shown to influence the prevalence of, and risk factors for, common vision conditions. They also impact access to, and the quality of, vision care services.

For example, in a major review on the underutilization of vision screening for amblyopia, optical anomalies, and strabismus among preschool age children in the United States, Castanes (2003) found that low-income, minority, and uninsured families are at high risk of not utilizing vision screening.²² Citing a lack of knowledge about preventive care, the unavailability of service providers, language barriers, financial costs of accessing care, and a disproportionate funding of medical care versus preventive care as key barriers to uptake, Castanes recommends greater education and awareness of the benefits of preventive services is required to empower and engage parents and guardians.²² Ganz, Xuan &

Hunter's (2006) study on the prevalence and correlates of diagnosed eye and vision conditions among children in the US also suggests that non-white children, children whose mothers have less than a high school education, and children without a usual source of care have significantly lower rates of diagnosed conditions than their counterparts. In other words, “underprivileged children may be under-diagnosed, under-treated or both placing them at risk for future problems”.²³ Similar studies in the United Kingdom suggest that while children from lower socio-economic status groups are at greater risk for vision disorders²⁴, they are less likely to see an eye-care specialist or to use screening services.²⁵ This divergence between clinical need and provision of clinical services suggests inequitable access to services for already disadvantaged populations.²⁵ Despite the large gaps in literature on this topic, it is evident that socio-economic determinants and the social gradient in health can negatively impact children's vision and create inequities in access to and quality of eye care. This is of particular importance to the successful implementation and uptake of Aboriginal-specific screening for preschool age children in BC.

Aboriginal vision screening in BC

The provision of hearing, dental and vision screening to all Aboriginal children under age six living on and off-reserve in BC is one of twenty-nine action items identified in the TCA-FNHP intended to help close the gap in the health status of Aboriginal peoples and the rest of the population.²⁶ An essential part of the larger provincial early childhood universal screening program launched in 2007, the Aboriginal children's screening initiative is supported by the First Nations Health Council's (FNHC) Maternal and Child Health program, which brings together Tripartite First Nations Health Plan^d partners in planning, service delivery, monitoring and evaluation.²⁷ Additional supports are also provided through the National Collaborating Centre for Aboriginal Health's (NCCA) vision screening initiative, which is focused on

d The Tripartite First Nations Health Plan (TFNHP) is a ten year plan (2007-2017) that was ratified in 2007 by the BC First Nations Leadership Council, the Province of BC and the Federal government. It builds on the TCA:FNHP and is intended to close the health gap for First Nations in BC. http://www.health.gov.bc.ca/library/publications/year/2007/tripartite_plan.pdf

research and knowledge translation related to Aboriginal children's vision.²⁸ The remainder of this review will focus on activities to date carried out by the NCCAH to promote education and awareness about Aboriginal children's vision, the determinants of vision health, and considerations for the successful uptake of screening services.

In 2007, the NCCAH conducted a survey of 145 BC community health representatives (CHRs) and public health nurses (PHNs) across BC to determine vision care needs of First Nations children living on reserve. Approximately 206 First Nations bands were contacted, with 145 agreeing to participate in the survey. Of these, 70 communities reported having access to vision services but only 21 received continual care. The remainder reported irregular clinics or none at all.²⁹ Cost was identified as a limiting factor to accessing health services, particularly with respect to travel costs for rural and remote community members.²⁹ Although satellite optometric offices eased the burden of travel in some instances, short clinic times and/or clinics offered only during work hours resulted in limited access.²⁹ A key recommendation to improve service uptake and sustainability of vision screening for First Nations children on-reserve included taking a holistic approach to services through greater community engagement and First Nations involvement in decision-

making processes that impact their health and well-being.

Following the needs assessment, the NCCAH conducted an environmental scan and literature review of provincial, national, and international programs, resources, and research related to preschool screening and Aboriginal eye health. The report found that with the exception of the Arctic Ophthalmology Symposium research collected in 1973, and a handful of diabetic retinopathy research in the late 1990s, very little information is available on Aboriginal vision care or eye health needs in Canada.³⁰ However, the report did identify some innovative programs and resources nationally and internationally that can serve as excellent models for improved Aboriginal eye health and vision care. Three projects funded by the Canadian National Institute for the Blind (CNIB) are worth noting for their efforts to address determinants of vision health including: a project on overcoming barriers to vision care and rehabilitation through culturally appropriate participatory action³¹; the development of culturally relevant visual acuity charts³², and a teleophthalmology pilot for diabetic patients living in rural and remote communities in BC.³³

Building on the existing information in the needs assessment and environmental scan, the NCCAH conducted a short review of preschool vision screening programs, training models, and mentoring

programs to identify best practices approaches to sustainable screening in Aboriginal communities. Many of the programs reviewed promoted a strength-based approach to available human resources in communities and/or organizations through the training of lay screeners.³⁴ Adopting a "train-the-trainer" approach for lay screeners was found to ensure greater sustainability, especially in rural, remote and isolated areas with limited access to health professionals.³⁴ The availability of user-friendly training manuals aimed at lay screeners with no ophthalmic background was also found to be advantageous.³⁴ Working in partnership with the FNHC and the Province of BC, the NCCAH incorporated a number of these recommendations into practice.

In 2008, the NCCAH developed a training manual³⁵ for lay screeners in Aboriginal communities such as community health representatives, early childhood development workers, and community nurses that is designed to complement the provincial manual for health authority staff.³⁶ To date, five train-the-trainer vision screening workshops have been completed using these manuals. The one-day training sessions led by Dr. Barry Lester, a local northern BC optometrist, provided community health representatives (CHRs), community nurses, and early childhood development workers with hands-on practice using the

screening tools including the H.O.T.V. vision chart, Welch Allyn SureSight Vision Screener, and the Randot Preschool Stereotest. A recent evaluation of two of the training sessions found that 82.4% of participants felt the training prepared them sufficiently to conduct vision screening, with approximately 91% reporting that they found the manual useful.³⁷ The NCCAH has also provided evaluation support to analyze Aboriginal preschool and kindergarten screening data and to document the tripartite process with respect to vision screening planning and implementation. These collaborative efforts ensure a more coordinated, holistic approach to screening training, implementation, and evaluation.

Conclusion

The introduction of universal early childhood screening in BC, especially the recognition of and added support for Aboriginal children's vision needs, is a positive step towards closing the health gap. The critical knowledge and knowledge gaps identified in this short review suggest that it is impossible to address health inequities, particularly "stark disparities in eye health and vision care utilization" without confronting the social determinants affecting vulnerable populations.³⁸

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Donna L. Atkinson, MA,
is a Research Associate at the
National Collaborating Centre
for Aboriginal Health,
University of Northern British
Columbia, 3333 University Way,
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CONNECTING VISIONS

Our Aboriginal relations

When family doctors and Aboriginal patients meet

BY CATHERINE T. ELLIOTT MD MHSc CCFP & SARAH N. DE LEEUW MA PhD

When I was a medical student, one of my teachers warned me to be wary of misunderstandings that could cloud my judgment. He described a case in which the powerful negative image of “drunken Indian” impaired a physician’s ability to assess and treat a man with diabetic ketoacidosis. The Aboriginal patient waited in a wheelchair in the waiting room for several hours until the next physician came on shift and discovered the error. I wondered how such an error could occur

Five years later, I was covering inpatients for a northern family medicine group. One of my patients was an elderly First Nations woman with chronic obstructive pulmonary disease and pneumonia. I spent some time learning about her symptoms, examining her, and working on establishing rapport. When I returned to her chart, I noticed she was in the process of being tested for tuberculosis (TB). The clinical standard was to isolate the patient until 3 sputum test results came back negative for the bacillus. I wrote an order for respiratory isolation and discussed this with the nurses. In my haste I didn’t return to talk with the patient. The next morning she looked troubled. She told me that because she was on isolation for TB, she thought that she was going to die. I was astounded; I had not appreciated how the history of TB treatment and

this patient’s personal experience would produce such different meaning around “isolation” from the meaning I had. I apologized. We spent some time discussing the situation, and I believe she saw that isolation was merely precautionary. She taught me a lot that day.

How had such a misunderstanding arisen? Like most Canadians, few of us appreciate the historical implications of TB for First Nations people. It is a history linked to residential schools, sanatoriums, and lonely deaths far from families and home communities.¹ We can all learn from the lessons of that encounter, which illustrates the need for physicians to consider the histories and contexts that patients bring with them to medical encounters.

Encounters between family physicians and patients can be laden with expectations, hopes, and assumptions. Both patient and physician bring their backgrounds to the doctor-patient relationship. Family physicians might bring medical knowledge, communication skills, and clinical acumen. Patients often bring their current symptoms and experiences of illness. When physicians meet Aboriginal

patients, additional factors enter the relationship. These include knowledge about Aboriginal cultures, assumptions about Aboriginal health and socioeconomic status, and a shared Aboriginal–non-Aboriginal history of colonization in Canada. Aboriginal patients, like all patients, bring both their personal and family histories and their experiences of previous interactions with physicians. Physicians have a certain social power, located in specialized medical knowledge, which holds a promise of healing. This social power might be amplified for some Aboriginal patients who feel powerless as patients.

How, then, can physicians develop meaningful and therapeutic relationships with Aboriginal patients? Like developing relationships with other patients, this involves social cues (eg, eye contact, body language), cues that might differ between physicians’ and Aboriginal patients’ cultures. When working with Aboriginal patients, it is our experience that physicians, for ostensibly indiscernible reasons, can struggle to elicit a chief complaint and have difficulty developing a management plan that is relevant to the

patient. These challenges run very deep. The solution might lie in how we use knowledge and curiosity in our relationships with Aboriginal patients.

Stumbling over knowledge

Factual knowledge is of great value to physicians. This knowledge, however, can blind us to other truths in clinical encounters.

In medical school, one of the first “facts” learned about Canada’s Aboriginal peoples is that they have poor health status and experience substandard social and economic conditions. Many of us do not come to understand the historical and social contexts of these facts. This can lead to a sense that “being Aboriginal” means having poor health and social conditions. This belief might leave us vulnerable to adopting common social stereotypes.

The practice of conflating health outcomes with cultural norms, when they are better explained by social, political, and economic factors, has a long history in Canada. It can occur when members of one group become marginalized and impoverished, and their behaviour in response to the marginalization is deemed “part of their culture.” For example, in the early 1900s when First Nations in British Columbia were separated from their land and resources, their ways of life changed from migratory to sedentary. Previously healthy living conditions became unsanitary, and high mortality rates from infectious disease

ensued. The historical record suggests that First Nations themselves were blamed for their poor health, without an appreciation of the social effects of this dramatic change in way of life. Poor health was deemed “an inherent part of indigenous lifestyles.”¹

Interpreting health behaviour in reference to historical and social contexts might seem irrelevant to patient care in the 21st century. Unfortunately, this is not always the case. Although very little is published on health professionals’ knowledge about Aboriginal patients, some studies have found that many of us continue to attribute poor health to cultural factors, not socioeconomic ones. In one study Aboriginal women were perceived to be negligent and uncaring owing to an epidemic of fetal alcohol syndrome in their community.² Another study found that professionals believed poor health, addictions, and physical and sexual abuse among Aboriginal patients were simply cultural (or natural) as opposed to being linked to historical and social conditions.³ In other words, professionals had internalized negative attitudes, pervasive in popular media, about Aboriginal peoples. These then informed relationships with patients.

Physicians can face a shortage of resources that provide insightful and sensitive information about Aboriginal peoples. So perhaps it is not surprising that many physicians gain knowledge through popular media or from scarce research that often

highlights the health problems of Aboriginal peoples. These same sources can, without offering critical commentary on the myriad expressions of Aboriginal life in modern Canadian society, emphasize “traditional Aboriginal lifestyle,” such as teachings of the medicine wheel and attendance at potlatches. While it is valuable to learn about Aboriginal peoples in Canada, we must remain critical of our evidence.

Knowledge as a springboard for curiosity

Even good evidence can present barriers to meaningful clinical encounters with Aboriginal patients. If physicians gather knowledge about Aboriginal peoples in much the same way we gather knowledge about diseases and treatments, we can have a false sense of confidence about our patients. This false confidence can impede our curiosity about the individual patient’s specific beliefs and cultural practices. Simply stated, this approach can generate a static and stereotypical picture that inadequately describes the diversity of those it attempts to explain.

It does not do justice to the complexity and fluidity of peoples and thus can hinder meaningful exchanges between doctors and patients.

On the other hand, if knowledge is used as a platform from which to engage our curiosity with each Aboriginal patient, it can build relationships. In one study, researchers asked Aboriginal patients about their communica-

tion experiences with physicians.³ Aboriginal community members and physicians felt that it was useful for physicians to understand Aboriginal history, particularly the history of residential schools. Aboriginal patients appreciated physicians who asked about home communities and personal histories. Patients preferred when physicians were not rushed and took the time to listen without interrupting.

Patients described how their own reactions to physicians were influenced by experiences at residential school. Feelings of inferiority and powerlessness, stemming from residential school experience, could be revived in physician-patient interactions. Still, patients who trusted their physicians did not experience the same negative associations between power differentials in the doctor-patient relationship and power differentials experienced as residential school students. Aboriginal patients said it was important that their physicians understood Aboriginal history in Canada. It was even more important that their physicians *understood them as individuals*. This feeling of being understood as an individual helped to build the trust necessary for meaningful and therapeutic relationships.

As family physicians we are members of Canadian society. We cannot avoid depictions of Aboriginal peoples in mainstream media. These ideas might slip into our unconscious and thus

emerge in our encounters with Aboriginal patients. They can impede our communication by dampening our curiosity. They can impair our clinical judgment.

These assumptions might also emerge in subtle ways: perhaps in how we speak with our patients or the treatment options that we consider.

As family physicians we can strive to actively question the images and stereotypes equating Aboriginal culture with the fallout of colonialization. We can, in the words of Cree Elder Willie Ermine, avoid “pathologization” of Aboriginal peoples.⁴ We can use our knowledge about historical and current issues regarding Aboriginal peoples in Canada to illuminate preconceptions that we bring to the interaction. An appreciation of the social context, coupled with an understanding of the diversity of Aboriginal cultures, can form a springboard from which to learn about an individual patient. This open-minded curiosity about each person can provide a bridge to understanding patients’ experiences. In fact, this interest in patients as individuals is exactly what some Aboriginal patients have stated that they would like from their doctors.

Dr Elliott is a resident in community medicine at the School of Population and Public Health at the University of British Columbia (UBC). She completed her residency in rural family medicine at UBC and practised in

Northern British Columbia. Dr de Leeuw is a human geographer and an Assistant Professor with the Northern Medical Program at the University of Northern British Columbia, the Faculty of Medicine at UBC.

Competing interests

None declared

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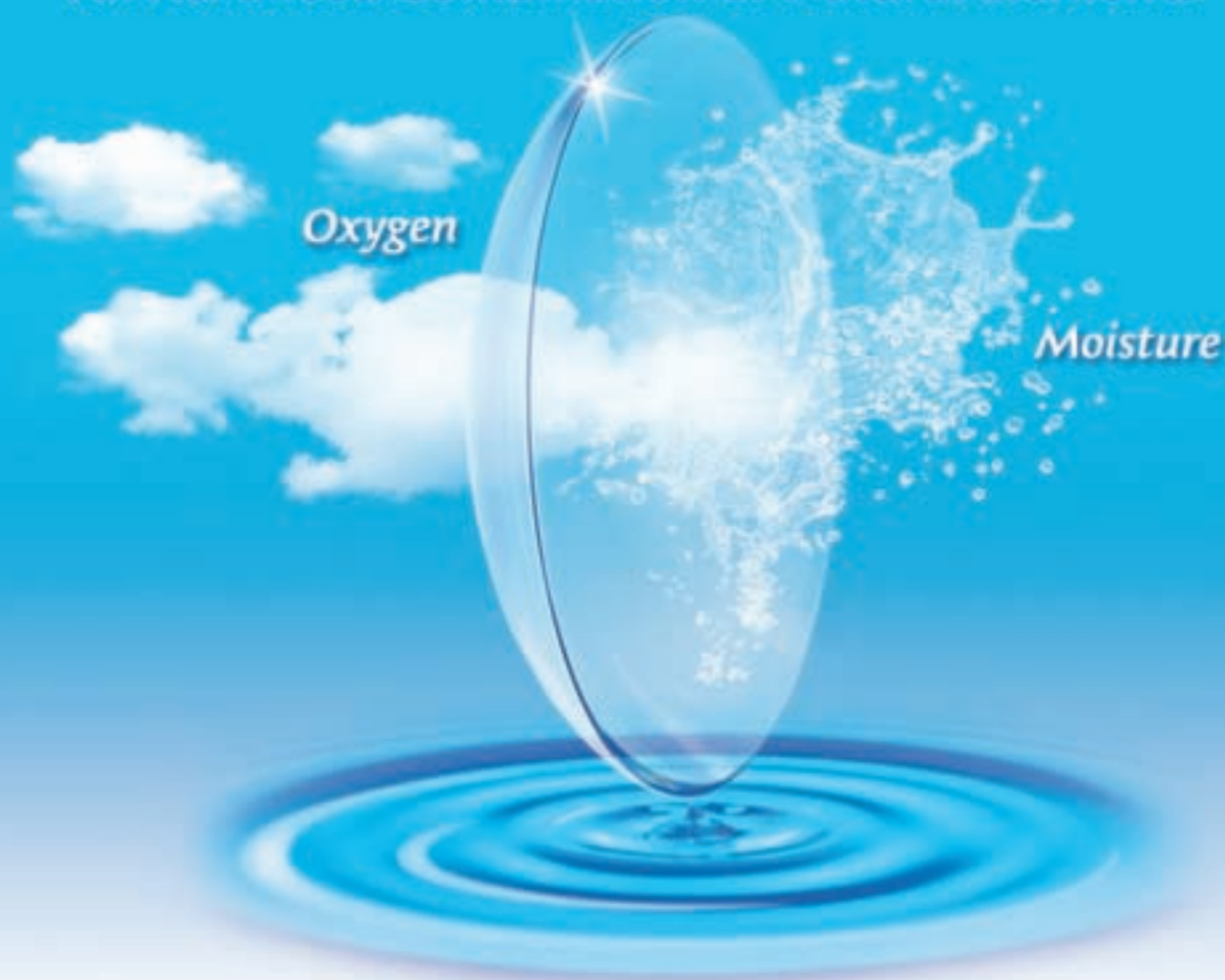
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³In vitro measurement compared with ACUVUE® GASY5™, ACUVUE® ADVANCE™, Biofinity®, and PureVision®.

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 4. CIBA VISION, data on file, 2007.
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