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Research update:

The CHRC team has developed a ‘busy’ issue of Covenant Health Research for your reference and use. In this issue, Peter Tian describes the services that he can assist with on page 2; a Call for Letters of Intent for the new Faith, Spirituality and Health Research Grant is included on pages 3 and 4.

Christine Lamash, Manager, Health Information Management, announces use of the Health Information Management provincial price list for charts pulled for research purposes at Covenant Health on page 4. This is in keeping with the provincial initiative to standardize price lists so that researchers can easily develop budgets for their research projects. Pharmacy and Lab Services have also undertaken standard price lists for reference.

Sheli Murphy provides notice regarding researchers and submission of GST, as well as an overview of Covenant Health’s Intellectual Property policy on page 5.

Mary Hodges, AHS Research Manager, introduces the Research Excellent Support Team (REST) on page 6. In addition to services provided by Covenant Health’s Library Services (i.e., literature searches), and grant writing services already provided through the Covenant Health Research Centre (CHRC), researchers at Covenant Health can also access statisticians and methodologists through REST.

Also accessible to all Covenant Health researchers are online courses such as Good Clinical Practice (GCP) available through CITI, and outlined on pages 13 and 14. The GCP course available through CITI has been reviewed and accepted by Abbott, Amgen-Canada, Astra Zeneca, BMS, Bayer, Johnson & Johnson, Lilly, Novartis, and Pfizer among others. As members of N2 (Network of Networks), Covenant Health researchers can also access other research courses of interest.

Don’t forget to mark your calendars and register for the upcoming Research Day on Feb. 7, 2013. This year’s event is focused on Knowledge Translation. A poster is included on page 15.

And last, but not least, several research articles based in the fields of radiology, geriatrics and children’s health and environment can be found on pages 7 to 12.

If you have questions regarding any of the articles, or would like to submit an article to this publication, please contact Mary-Ann Clarakes at 780.735.9330 or email mary-ann.clarakes@covenanthealth.ca.

The new Health Ethics Guide, the primary ethics resource used by Catholic health care facilities in Canada, was launched in October 2012. The new 3rd edition embodies the same balanced, practical and compassionate approach for which the 2000 edition of the Health Ethics Guide has been internationally recognized. Informed by the long-standing Catholic moral and social justice tradition with updated commentary on emerging healthcare technologies and trends, the guide is intended to help providers navigate the complex ethical issues encountered while providing service to the people in our care.

Not to be confused with the Tri-Council Policy Statement 2 (TCPS2) utilized for ethics review through any Health Information Act (HIA) designated ethics board, the Health Ethics Guide is used as a supporting reference for Covenant Health operational/administrative approval reviews of research projects to ensure that any identified conflicts are mitigated and/or addressed.

The Health Ethics Guide is available for researchers through the Covenant Health Research Centre or can be purchased through the Catholic Health Alliance of Canada website at: www.chac.ca/resources/ethics/ethicsguide_e.php

All research at Covenant Health requires ethics review through the Research Ethics Office at the University of Alberta www.reo.ualberta.ca/, facilitated through the Research Ethics Management Online (REMO) system, formerly known as HERO: www.remo.ualberta.ca/.

Given the ethics harmonization work undertaken by sponsoring partners through Alberta Innovates-Health Solutions (AI-HS) www.aihealthsolutions.ca/eip/hreh/, multi-site research approved through any Health Information Act (HIA) designated ethics board in Alberta will be eligible for an expedited review through the REMO system.

An important aspect of maintaining ethics approval for research projects is ensuring that any amendments are approved, and that approvals are renewed every year through REMO until such time as the

continued on next page
study is closed and no longer active. Dr. Shane Kimber scribbled a letter outlining the responsibilities and consequences in an open letter from September 2012, available at: www.caritas.ab.ca/Home/Research/ForResearchers/Ethics/default.htm.

REMO does initiate a reminder email to the study Principal Investigator (PI) towards the end of the one-year approval period. The reminder email is directed to the PI’s University of Alberta (UofA) email address (or guest CCID if no UofA affiliation is in place). If you do not check your UofA email regularly, you may want to consider having your UofA email forwarded to another preferred email address.

To have email forwarded, please follow this process:
1. Sign into your UofA email account: apps.ualberta.ca/
2. Choose Profile Manager > Forward > Enter the email address you wish to have your email forwarded to.
3. Sign out

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**Get that grant!**

Peter Tian, MD, MPH
Grant Writer - CHRC

Have you ever dreamed of getting that fat research grant but haven’t quite the time to do an application? Was there ever a time when a call for project proposals got you really excited but you had your plate full? Well, Covenant Health wants you to get the grants you are passionate about so it has has hired a grant writer (i.e., moi) to do one thing: give you a hand to develop grant applications. If you have an insomnia-inducing desire to do research, if you require assistance in writing a grant proposal—whether for research or projects—then kindly contact me and I’d be delighted to help.

What effort is required in writing grant proposals? First, we search for a grant that best matches your objectives and funding needs. We study the grant details thoroughly, noting whether the grant is a perfect match and whether an application is feasible. It is during this time that we may find the need to tweak your objectives to match the application requirements. Second, to increase the chances of having a successful application, we need to do some ground work: Find good-fit co-authors; collaborate with various stakeholders; and ask for matching funds. The extent of this preparatory work determines the strength of the proposal. And, lastly, we write and submit the grant proposal. We compose a masterpiece, which a non-specialist could understand, and a relevant and cohesive proposal so the funding agency could simply not refuse funding.

Ever dreamed of that fat grant? Let’s work together and make it a reality.

**FAQ 1: What services does the grant writer provide?**
1. Search and monitor for funding opportunities
2. Review and/or assist in the development of any groundwork
3. Write a grant proposal with you

**FAQ 2: How do I access the grant writer’s services?**

Complete the Grant Proposal Information Request form found on the website at: www.caritas.ab.ca/Home/Research/ForResearchers/GrantRequests/GrantWriter.htm, and send an email to researchprojects@covenanthealth.ca. Depending on your request, we may ask you to provide additional information. Subsequently, the CHRC will advise on whether your request fits the centre’s capabilities and workload.
Faith, Spirituality and Health Research Grant
Call for Letters of Intent

Faith, Spirituality and Health Research Grants

The Covenant Health Research Centre (CHRC) calls for Letters of Intent for research studies that examine the interaction of faith, spirituality, health and healing.

Over the past 20 years in healthcare research and public discourse there has been a surge of interest in topics related to spirituality and health with an understanding that whole person care involves the body, mind and spirit. Areas of inquiry have included topics such as: the effect of spiritual and religious practices on health outcomes, the spiritual needs of those receiving healthcare, the efficacy of spiritual interventions as part of health promotion and clinical treatment, and the spirituality of healthcare providers.

Covenant Health, Canada’s largest Catholic healthcare provider, in collaboration with St. Joseph’s College at the University of Alberta, seeks to further this conversation through dedicated research and education in the intersecting fields of faith, spirituality, health, and healing.

Faith, Spirituality and Health Research Grants support research and education initiatives that:

• document effects of religious or spiritual practices on health (where “health” is broadly defined as more than physical health, but as human flourishing; and health includes the promotion and maintenance of health, along with the prevention and treatment of disease)
• investigate the mechanisms by which religion and spirituality may impact health
• explore how spiritual/religious values and beliefs impact health-related decision making
• investigate the ways medical professions integrate spirituality into their practice, along with educational methods that include spirituality in training for healthcare providers
• interpret what the findings mean for individuals, congregations, academic communities and healthcare providers through transdisciplinary collaboration

Application Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tr>
<td>Feb. 15, 2013 (16:00 MST)</td>
<td>Deadline to submit Letter of Intent</td>
</tr>
<tr>
<td>March 7, 2013 (16:00 MST)</td>
<td>Applicant notified of status of Letter of Intent; full proposal invited</td>
</tr>
<tr>
<td>April 15, 2013 (16:00 MST)</td>
<td>Invited full proposals received by Covenant Health Research Centre</td>
</tr>
<tr>
<td>May 31, 2013 (16:00 MST)</td>
<td>Applicant notified of status of full proposal</td>
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Frequently Asked Questions

How do I apply for a grant?

• Submit a Letter of Intent to the attention of the Chair: Faith, Spirituality and Health Advisory Committee
• The Letter of Intent should include the following information:
  i. cover page including project title; name and contact information for Lead and Co-Leads (maximum one page);
  ii. an executive summary of the applicant’s research proposal, which also addresses the applicant’s interest in faith, spirituality, health and healing, including relevant aspects of his/her past work, training, and scholarship as well as how the

continued on next page
applicant’s project would benefit the research and education initiatives of Covenant Health/St. Joseph’s College (maximum one page);

iii. approximate grant amount requested together with a preliminary budget (maximum one page).

- Include Curriculum Vitae of Lead applicant
- Submit Letter of Intent package to: researchprojects@covenanthealth.ca

Or by mail to:
Covenant Health Research Centre
Attn: Chair, Faith, Spirituality and Health Advisory Committee
Misericordia Community Hospital
16940–87 Avenue, R07-3, Cabrini Centre
Edmonton, AB T5R 4H5

What is the maximum amount I can apply for?

- The maximum amount for a Faith, Spirituality and Health Research Grant is $25,000.00 CDN.

Who is eligible for a grant?

- Open to academics and healthcare providers/clinicians

How will my grant request be considered?

- The CHRC circulates your request to the Faith, Spirituality and Health Advisory Committee for approval
- The Advisory Committee will evaluate Letters of Intent. Only successful applicants will be contacted and invited to submit a full proposal
- The invitation to submit a full proposal does not guarantee funding

What are the restrictions on funding?

- Funding is not provided for salary of the lead applicant
- The funds requested must be utilized to cover research-related expenses

What if I need assistance with grants in general?

- Call the CHRC at (+1)(780) 735-2431 or email researchprojects@covenanthealth.ca

For Further Information
www.caritas.ab.ca/Home/Research/ForResearchers/GrantRequests/Faith+Spirituality+Health+Grant

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### Health Information Management provincial fee schedule

Christine Lamash
Manager, Health Information Management, Edmonton Acute Care, Covenant Health

Health Information Management (HIM), in partnership with AHS, has introduced a provincial fee schedule for research studies. A working group undertook a review of both past and current practices, and conducted a national scan of fees charged for research chart retrievals in determining the costs. The table below provides a standardized list of services and their fees to assist investigators in project and budget planning. The fees will be in effect across the province and will be applied to all new projects effective immediately.

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee Description</th>
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<tr>
<td>Retrieval</td>
<td>$3.00 per volume¹ for paper charts or records viewed electronically.</td>
</tr>
<tr>
<td>Repulls⁴</td>
<td>$3.00 per volume for paper charts or records viewed electronically.</td>
</tr>
<tr>
<td>Offsite retrieval</td>
<td>Costs associated with retrieval of records stored at offsite locations will be according to the existing service provider fee schedules. The cost of $3.00 per volume will be an add-on to the offsite retrieval costs.</td>
</tr>
<tr>
<td>Disclosure of copies processed by HIM</td>
<td>$25.00, which includes 20 pages, plus $0.25 (paper) or $0.50 (microfilm) per additional page copied.</td>
</tr>
<tr>
<td>Additional costs</td>
<td>Per the Fee Schedule of the Health Information Act will be applied as applicable.</td>
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1. Per volume is defined as a single volume of a multi-volume paper chart.
2. Repulls is defined as having to retrieve the same volume of the paper chart, for the same research project, after it has been filed back into permanent files or another HIM location, or electronic records previously viewed for the same research project.
Notice of GST requirements for researchers at Covenant Health

Covenant Health has recently reviewed the application of the federal Goods and Services Tax (GST) to research services being supplied by researchers at our facilities. We believe it is important that you have all the information you need to conduct research at Covenant Health and would like to provide you with information about GST requirements.

Based on Canadian Revenue Agency (CRA) requirements, as a researcher in our organization, when you provide research services that exceed $30,000 annually, you are required to register and remit GST for the services provided. If you do not charge or remit GST, you may risk a GST audit by the government. You will not be out-of-pocket for the GST charges; the funds will be provided by your funding sponsor (e.g., pharmaceutical company) and may be claimed as an input tax credit by them.

Although it is not a necessary requirement based on the CRA guidelines, we are encouraging researchers who conduct services under the $30,000 threshold to also consider registering for GST on a voluntary basis. The benefits in doing so include the ability to claim tax credits to recover GST paid on business purchases, and it ensures you are covered if sponsors only wish to do business with a registered researcher(s). Finally, you’ll be prepared if total revenue from sales of taxable goods and services exceed $30,000.

We encourage you to consult with your accountant or tax consultant to ensure you are meeting CRA guidelines. The CRA guidelines can be found at: www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/menu-eng.html.

Covenant Health’s policy on intellectual property

In December 2011, Covenant Health approved the Intellectual Property (IP) policy III-50. This policy outlines how Intellectual Property is to be owned and commercialized, as well as how revenue will be shared. As there have been a number of questions regarding this policy, please see below for a brief overview of the key points:

1. Sheli Murphy, as Executive Lead for Research, is responsible for the administration of Covenant Health’s IP policy.
2. Covenant Health wants to encourage the disclosure of IP in accordance with academic principles.
3. Covenant Health will own IP created:
   a. Primarily at one of our facilities, or
   b. Through use of our resources, or
   c. Using research grants which we administer, or
   d. By our employees, or
   e. During a contract for service if provided for, or
   f. During the course of sponsored research or collaborative agreements.
4. Covenant Health will recognize third party contributions and ownership interests in IP.
5. Covenant Health will work with IP creators to commercialize IP as appropriate.
6. Revenue will be shared 1/3 with IP creator, 1/3 with Covenant Health and 1/3 to IP’s creator’s department to support ongoing innovation for IP commercialized by Covenant Health.
7. Revenue will be shared 2/3 with IP creator and 1/3 to IP’s creator’s department to support ongoing innovation for IP commercialized by the IP creator.

If you have any concerns or questions, please contact Sheli Murphy at 780-498-1454 or Josh Stachniak at 780-342-8921.

Note: To read the full IP Policy, please visit: www.compassionnet.ca/Policies/iii-50.pdf
Commitment to research is a critical strategic priority that will make Alberta Health Services (AHS) fit for the future. The Research Excellence Support Team (REST) offers professional and administrative expertise to AHS researchers to support AHS priorities and to increase capacity for evidence-informed decision making in both policy and practice. Clinicians, managers, policy makers, and health care professionals can access the team for information and comprehensive services that will assist them in research efforts across the spectrum of science; to conduct research of the highest integrity and when appropriate, to secure competitive funding. We foster scientific discovery and facilitate the translation of research into better health and well-being for Albertans.

REST works in partnership with other AHS teams to create and facilitate opportunities for researchers to meet, interact, learn and collaborate. By providing research consultations, mentoring and educational opportunities to AHS staff, the team will foster and facilitate knowledge cycle activities—from knowledge generation through to knowledge mobilization. We offer support for:

- development of research questions
- literature and systematic reviews
- grant proposal development
- grant and ethics applications
- research methodologies
- research dissemination
- preparation, creation and/or implementation of statistical analysis plans
- database building, data capture, data entry

If you would like to contact us to request our support, please see this link on the AHS external website: www.albertahealthservices.ca/6723.asp.

Note: consults with REST are also available to Covenant Health researchers.

REST Vision: Better health and well-being for Albertans through research

REST Mission: Rigorous multidisciplinary inquiry into questions about appropriate, harmonized, effective and efficient means of improving the health status of Albertans

REST Values:

- **Research excellence**: We value rigorous, ethical science that meets globally expected standards and that is conducted, interpreted and positioned within established knowledge bases to ensure the health and well-being of all Albertans in our care.

- **A culture of respect**: We value teamwork, respectful, truthful communication, and positive, supportive work environments.

- **A culture of research**: We value a culture of research which ensures that 1) AHS professionals (including physicians, nurses, allied health clinicians and administrators) are actively engaged in a knowledge cycle to inform optimal patient care and, 2) the creation and use of knowledge is facilitated. We value collaborations, partnerships, consultations, education and mentorship.

- **Accountability**: We value responsibility and accountability in our positions to persons accessing AHS’s health care, to AHS, as well as funders and partners, and ultimately, to the people of Alberta.
Diagnostic utility of radiographic and MRI findings in juvenile spondyloarthritis

Lei Liu, Naomi J. Winn, Robert G.W. Lambert, Jacob L. Jaremko
Department of Radiology and Diagnostic Imaging, 2A2.41 WC Mackenzie Centre, University of Alberta, 8440-112 St., Edmonton, AB T6G 2B7

Background
Spondyloarthritis (SpA) refers to a group of inflammatory joint diseases affecting the spine. Juvenile onset disease occurs rarely (10-20% of all cases), but often presents a bigger diagnostic challenge due to atypical presentation in comparison to adult patterns. Key diagnostic imaging findings indicative of sacroiliitis help establish a definitive diagnosis of SpA, but often appear quite late on conventional radiography. Recent investigations identified MRI as a superior modality for the assessment of sacroiliitis in SpA, but studies focused predominantly on adult-onset disease. Consequently, validation is still lacking in pediatric populations. This study aims to investigate and compare the diagnostic utility of radiography and MRI in the assessment of sacroiliitis in juvenile spondyloarthritis.

Methods
Blinded radiographs and MRI studies of the sacroiliac joints in 34 juvenile spondyloarthritis patients and 27 control patients were assessed for findings indicative of sacroiliitis. MRI was performed at Edmonton sites including primarily the Grey Nuns Community Hospital and Stollery Children’s Hospital. All imaging studies were assessed independently by two musculoskeletal radiologists, with disagreement arbitrated by a third. Diagnostic utility of individual findings of each modality, as well as overall impressions formed on each modality, were then determined by calculating and comparing sensitivity, specificity, and positive likelihood ratios (LR+).

Results
The most diagnostically useful feature was the presence of subchondral erosions in the sacroiliac joint, which was highly suggestive of SpA on radiography (positive Likelihood Ratio, LR+=3.2), and essentially diagnostic of SpA when confirmed on MRI (LR+=14). However, when erosions are observed only on radiography, but not on MRI, they are not indicative of SpA (LR+<2). In contrast, perceived narrowing of the sacroiliac joint space width was only a useful feature on radiography (LR+=3.2), but not on MRI (LR+<2). Bone marrow edema (LR+=3.8) and periarticular fat deposition (LR+=2.6) were features observable only on MRI, and both suggested the presence of SpA. Sclerosis along the periarticular cortex in the sacroiliac joint is often reported to be a classic feature of sacroiliitis. In this study, sclerosis was a nonspecific feature with poor significance (LR+<2) on both imaging modalities. When sclerosis was observed on both the radiograph and MRI of the same patient, the likelihood of disease did increase (LR+=3.0). Globally, diagnostic impressions formed on interpretation of MRI (LR+=12) were much more diagnostic of juvenile spondyloarthritis than on radiography (LR+=2.6). Importantly, when discordant results were observed whereby a positive diagnosis of SpA was suggested on radiography but the MRI was deemed normal (LR+=0.40), the patient was no more likely to have SpA.

Implications
Similar to other studies conducted in adult populations; our results confirm that in general, MRI is superior to radiography in the diagnosis of spondyloarthritis. When imaging confirmation of SpA is needed for a pediatric patient in clinical practice, MRI of the sacroiliac joints should preferentially be ordered as it is free from ionizing radiation and more diagnostically informative. In spite of a poorer diagnostic utility, our results suggest that radiographic projections of the pelvis are valuable in the interpretation of some features, including joint space narrowing and cortical sclerosis. Therefore, co-interpretation of both a radiograph and MRI may be the ideal way to establish the presence or absence of SpA in children. Further investigation of this possibility is planned.
Congruency in goals of care in an outpatient geriatric assessment setting

Marjan Abbasi, MD; Sheny Khera, MD, CFPC, MPH; Bonnie Dobbs, PhD; Odell Pui, MD; Rhianne McKay, MA

Introduction
The aim of geriatric assessment is to improve the quality of healthcare for seniors by addressing their broad range of health issues in an integrated fashion, including mental, social and functional concerns. However, the efficacy of specialized geriatric teams in care management has been variable. Barriers to improved patient outcomes include lack of adherence to treatment plans and lack of long-term follow-up. Evidence also suggests a lack of awareness of patient and caregiver perspectives among health care providers. Improvements in comprehensive care for seniors may be realized through improved patient-caregiver-physician goal congruence.

Objectives
To assess goal congruence between dyads in a triad (patient, caregiver, and physician) on reason for referral and specific goals of care as well as assess congruence between patient and caregiver ratings on the patient’s functional status.

Setting
Covenant Health, Misericordia Geriatric Clinic, Edmonton, AB.

Methods
Participants were: 1) community-dwelling patients undergoing initial evaluation at the Misericordia outpatient geriatric assessment clinic, 2) their caregivers, and 3) the consulting Care of the Elderly (CoE) physician performing the assessment at the clinic.

Patients were interviewed by the research assistant using a structured questionnaire; caregivers and physicians completed parallel questionnaires independently with all participants blinded to responses from other members of the triad.

Results
There were 45 triads who completed the study. Patients’ mean age was 80.7 years (SD=7.4), of which 54% were female while mean caregiver age was 63.1 (SD=5.8) years with 62% female. The majority of patient-caregiver-physician triads did not agree on why the patient had been referred for a geriatric assessment with many of the patients uncertain as to why they were initially referred to the clinic. Goals of care between patient-caregiver, patient-physician, and caregiver-physician also were incongruent. Patients and caregivers also differed in their opinions on a patient’s functional abilities with patients’ top three functional difficulties as balance, driving, and pain; with caregivers ranking a patient not having functional independence for transportation, balance, and driving. There was a significant difference between the two groups (with more caregivers believing that the patient was having difficulties) for balance (p=.001) and pain (p=.002).

Conclusion
Results from this research can help to create awareness of the differences that patients, caregivers, and physicians have related to goals of care (including reasons for referral), with that awareness seen as an important first step towards improving outcomes from a comprehensive geriatric assessment.

Figure 1: Percent congruency and discrepancy between patient and physician reasons for patient referral and the goals for patient care.

continued on next page
Question

1. What did you find?
A high degree of incongruence between the dyads in a triad (patient-physician, patient-caregiver, and caregiver-physician) on reasons for referral and goals of care was found.

2. Why was it important?
Failure to recognize and/or address patient and caregiver goals of care may account for the patient’s lack of adherence to treatment plans and compliance with long-term follow-up.

3. Where to go from here?
Establish common ground between physicians, caregivers and patients by discussing goals of care, acknowledge some inherent incongruence, and focus on quality of care, in order to improve health outcomes and satisfaction.

References
Fish consumption in children: the challenge of communicating balanced advice on risks and benefits

Osnat Wine, Alvaro Osornio-Vargas and Irena Buka
ChEHC (Children's Environmental Health Clinic) Misericordia Hospital, Edmonton, AB (www.chehc.ca)


Fish consumption is a challenging topic to communicate. It presents conflicting health endpoints of nutritional benefits and adverse contaminant risks. On the one hand it is of great importance to children's health and is essential for neurodevelopment, starting in pregnancy, through early childhood and adolescence. But on the other hand, it may expose children to contaminants such as mercury and persistent organic pollutants (POPs) like polychlorinated biphenyls (PCBs), which may have neurological and developmental endpoints. The dilemma is further complicated since both avoiding fish and consumption of contaminated fish can potentially harm children. The issue of fish consumption is of interest to many researchers and continues to occupy the attention of the scientific community. For example, a recent issue of the Journal Environmental Health Perspectives (June, 2012, www.ncbi.nlm.nih.gov/pmc/issues/211634/) has dedicated its monthly journal to discuss the risks, benefits and communication around fish consumption.

Nutritional benefits of fish
Fish are recommended as part of a balanced nutrition (Health Canada food guide), due to their high content of protein and essential vitamins and minerals (vitamin D, calcium, selenium, etc.). The low levels of saturated fats and the high levels of the beneficial omega 3 poly-unsaturated fatty acids (PUFA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) that are absent from other basic foods make fish and seafood unique. The omega 3 fatty acids are believed to contribute mainly to neurodevelopment during the prenatal phase but also during childhood. Other benefits include better cognition measurements, and social development scores during childhood and adolescence.

Health risks associated with fish consumption
The main health risks of eating fish, other then allergies, relate to exposure to potential contaminants in fish and seafood. In this context, the most significant risks include exposure to methylmercury (MeHg) and PCBs, where levels of contaminants are higher in the bigger predatory fish due to the increase of the concentration of contaminants in the food chain (biomagnification).

According to some reports in children, MeHg exposure in utero is associated with lower performance on language tests, attention, memory, and visuospatial or motor functions. The historic recognition in the toxic properties was acknowledged in Minamata, Japan 1956, where the population was exposed to high levels of mercury presenting severe neurological outcomes later described as Minamata Disease. Later studies further confirmed MeHg-induced developmental neurotoxicity, which constituted the basis for risk assessments and related public health policies. Three longitudinal studies in the Seychelles, New Zealand, and Faroe Islands were used to define reference levels of MeHg for risk assessments and investigated an association between prenatal mercury levels and the development of poor neurobehaviour and neurodevelopment of children. To date, provisional tolerable daily intake (pTDI) of MeHg for women of child bearing age and young children is 0.20 µg/kg bw/day.

Other contaminants associated with fish consumption are PCBs. Exposure to PCBs during fetal and early life by fish consumption has been shown to reduce IQ and alter behavior. PCBs were also associated with immune suppression, alteration of the thyroid gland and reproductive systems of both male and female, and are considered to be tumor...
promoters enhancing the effects of other carcinogenic substances.

Fish advisories, and consumption habits

In light of available evidence the question remains: What are the best practices for children’s health or simply - ‘to eat or not to eat’?

Food guides around the world recommend including fish as an important part of a balanced diet. The guiding rule is to identify the specific fish to be eaten as different fish differ in levels of contaminants and unsaturated fatty acids. Therefore, when choosing fish for consumption one must be aware of the properties of the fish consumed (fish origin, levels of contaminants, and nutritional value) as opposed to looking at all fish in a generic fashion.

Various agencies (governmental and non-governmental) provide recommendations for eating fish. For example, Health Canada fish consumption advice includes recommendations for fish consumption by women and children related to health benefits and fish that should be limited (Table 1). Other electronic fish consumption guides and advisories are available from both Canadian and U.S. sources (Table 2). Some of these advisories offer more detail, including advice on a long list of fish species, their different origins health properties, sustainability considerations, etc.

Various information sources offer advice and guides for smart fish eating. However, these guides are not always easy to access, especially when information and updates are mainly electronically published or where hard copies, such as updated brochures and guidelines are less abundant and more difficult to access. Other challenges refer to the guides’ content, which can be difficult to comprehend and transfer into action at times. Some of the challenges include multiple considerations for consumers (e.g., sustainability considerations), while other challenges include the identification of health outcomes and relating them to specific fish types. Additionally, media coverage and public reports on both health benefits and risks of fish consumption with bulk messaging focusing on risks seem to result in confusion leaving consumers to doubt the credibility of all sources. These limitations in available information may lead to either indifference, disregarding warnings, or, conversely, to minimizing fish consumption altogether.

Though awareness to advisories has increased pregnant women were found to report improved awareness of fish advisories, but also admitted to higher frequency of fish avoidance. Another study showed consumers lack accurate information on contaminants in fish in order to make informed risk-balancing decisions.

A survey in Alberta identified lower than recommended intake by children; Hughner and colleagues reported that 250,000 women of childbearing age in the U.S. were exposed to high mercury level fish, while over 2,000,000 women do not eat enough fish. From an economical perspective researchers have claimed that advisories had net negative benefits since they result in reducing mercury intake at the expense of the healthful omega 3.

Many factors affect decisions on fish consumption: awareness of health benefits and health risks, access to guides, availability of fish, cost, etc. Consumer guidance should therefore be co-ordinated, combining benefit and risk information and be easier to access and easier to understand. Knowledge translation could and should be done directly to consumers engaging children, youth, parents, and caregivers, but could also benefit from the engagement of health care providers such as physicians, public health nurses and dieticians. Practitioners are in an ideal position to transfer the knowledge and improve awareness of parents/guardians and children for making informed choices about fish consumption to maximize health benefits and minimize health risks.

A general advice to parents and caregivers should emphasize the importance of fish consumption for children’s development and nutrition while addressing the issue of smart choices (i.e., limiting consumption of bigger predatory fish, and choosing a variety of smaller recommended fish).

### Table 1

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>• Canada Food Guide recommends children to consume two portions of variety of fish weekly (75g each).</td>
</tr>
<tr>
<td>• Salmon, farmed trout, sardines, mackerel (Atlantic), anchovies, oysters and herring are some examples for fish, a great source for Omega 3.</td>
</tr>
<tr>
<td>• Canned tuna: No limitations on light tuna. Albacore tuna (white tuna) eat moderately.</td>
</tr>
<tr>
<td>• Children: Under 4, limit to one food serving per week. Children ages 5-11, limit to two food guide servings per week (One food guide= 75g= ½ small can).</td>
</tr>
<tr>
<td>• Limit consumption of swordfish, fresh/frozen tuna, orange roughy, shark, marlin and escolar to once a month.</td>
</tr>
<tr>
<td>• Sport fish: consult local advisories before consuming the catch (<a href="http://www.ec.gc.ca/mercure-mercury/default.asp?lang=En&amp;n=DCBE5083-1">www.ec.gc.ca/mercure-mercury/default.asp?lang=En&amp;n=DCBE5083-1</a>).</td>
</tr>
<tr>
<td>• For more information on fish and seafood consult additional sites in Table 2</td>
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</table>

continued on next page
Table 2
List of online Canadian and U.S. fish consumption guides and recommendations

<table>
<thead>
<tr>
<th>Description</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>A guide to eating fish for women children and families</td>
<td>Healthy Eating, Ottawa <a href="http://www.ottawa.ca/residents/health/living/nutrition/healthy_eating/fish_facts_en.html">www.ottawa.ca/residents/health/living/nutrition/healthy_eating/fish_facts_en.html</a></td>
</tr>
<tr>
<td>Sea Choice</td>
<td>NGO <a href="http://www.seachoice.org/">www.seachoice.org/</a></td>
</tr>
<tr>
<td>What fish are safe to eat?</td>
<td>Richard Dagan, Intraspec.ca, Non-for-profit <a href="http://intraspec.ca/fish.php">intraspec.ca/fish.php</a></td>
</tr>
<tr>
<td>Seafood selector</td>
<td>Environmental Defense Fund <a href="http://www.edf.org/page.cfm?tagID=1521">www.edf.org/page.cfm?tagID=1521</a></td>
</tr>
<tr>
<td>Fish consumption advisories</td>
<td>U.S. Environmental Protection Agency <a href="http://www.epa.gov/hg/advisories.htm">www.epa.gov/hg/advisories.htm</a></td>
</tr>
<tr>
<td>Healthy fish, Healthy families</td>
<td>Physicians for social responsibility, Association of Reproductive Health Professionals <a href="http://www.psr.org/assets/pdfs/hfhf_english.pdf">www.psr.org/assets/pdfs/hfhf_english.pdf</a></td>
</tr>
<tr>
<td>Kid safe Seafood</td>
<td>Non-for-profit organization <a href="http://www.maridahines.org/KidSafeSeafood/">www.maridahines.org/KidSafeSeafood/</a></td>
</tr>
</tbody>
</table>
Introduction

CITI (Collaborative Institutional Training Initiative)-Canada is an online clinical research training program that incorporates ICH-GCP (International Conference on Harmonization - Good Clinical Practice), TCPS2 (Tri-Council Policy Statement Edition 2), and Health Canada regulations. CITI-Canada is jointly developed by CITI and N2 (Network of Networks). The initial online courses available are:

- CITI Canada Good Clinical Practice Course
- Responsible Conduct of Research
- Biomedical Research Ethics Tutorial

Upon completion of the program, participants can print a certificate as evidence of training. The CITI program is used by over 1000 participating institutions, facilities and disease networks around the world, and new courses are added on an ongoing basis.

This training opportunity is part of the ACRC strategic priority #3 to develop ‘provincial standards and opportunities for clinical research training’. It contributes to a set of simple tools and templates, and training which incorporate best practice and applicable guidelines, created by the ACRC. Through these efforts, the quality of clinical research and research staff in the province is enhanced.

Alberta Clinical Research Consortium (ACRC)

The ACRC is a provincial initiative that involves academic and community-based researchers and administrators working together to achieve the vision of ‘high quality, integrated and efficient clinical research in Alberta’.

From study start-up to close in all phases and disease areas, the ACRC is simplifying and harmonizing administrative processes across the province while upholding high quality clinical research standards through the incorporation of best practices and applicable guidelines. The goal is to make it easier to do quality clinical research that will improve patient outcomes in the province.
Who can participate in CITI-Canada?

Experienced and novice researchers and study coordinators, service departments, and clinical staff in both academic and community-based settings from across Alberta can take part in this training.

Your cost to participate is free of charge as it is covered through the ACRC partner organizations’ membership with N2.

Do pharmaceutical companies accept CITI-Canada as equivalent to their GCP training?

Currently, AstraZeneca, Pfizer, Abbott, Novartis and BMS have accepted completion of CITI-Canada as equivalent to their GCP training requirement. It is also being considered by other companies.

If you encounter a pharmaceutical company that does not accept CITI-Canada training as equivalent to their training, please let us know, and we can help advocate.

How long do the modules take to complete and can it be done over a period of time?

Reading through the material and completing the quizzes in each course takes approximately three hours.

You can start and stop the training at any time.

Are CME/CEU credits available?

Yes, credits are available for most affiliations (e.g. medical, dental, nursing, pharmacy, psychology, social worker, etc.). There may be a fee.

Family physicians can claim Mainpro M2 credits with the College of Family Physicians Canada.

Participants are encouraged to first check with their professional affiliation.

Does SOCRA accept CITI-Canada training for continuing education credits?

Yes, SOCRA (Society of Clinical Research Associates) also offers the CITI training program as a member benefit.

How do I access the CITI-Canada training?

Following the instructions below, select the Alberta Clinical Research Consortium (ACRC) as your organization.

Can I add ACRC as an affiliate if I am already registered in CITI-Canada?

Yes, after you log in, you can add or remove your affiliation with other institutions on the main menu.

Does CITI-Canada cover investigator training?

Check with the pharmaceutical company if the CITI-Canada GCP course is accepted as equivalent to their GCP training. However, individuals still need to complete study-specific training.

What is the difference between CITI and CITI-Canada?

CITI-Canada is based on CITI, which was developed by the University of Miami and the Fred Hutchinson Cancer Research Center, and includes GCP and the FDA regulations. N2, in partnership with CITI, customized the training to include Health Canada and TCPS2 guidelines for the N2 member organizations.

N2 is a national non-profit alliance of clinical research stakeholders (disease networks, institutions, universities, and industry) collaboratively working towards common practices and harmonization where possible. The Canada-CITI training program and standard operating procedures (SOPs) are a few of the tools and resources that have been developed.

Acknowledgements

This training was made possible through the ACRC partner organizations and the ACRC Strategic Priority #3 Working Group Members: Lori Anderson – University of Alberta; Jody Berube - RERC; Mary-Ann Clarkes - Covenant Health; Marilyn David - AHS, Mary Hodges - AHS; Scott Jamieson – University of Alberta; Nicola Kopac - Alberta Clinical Research Consortium; Carolyn Walker – Center for Neurologic Research, and Tammy Mah-Fraser - Alberta Clinical Research Consortium.

http://www.aihealthsolutions.ca/acrc/

October, 2012
Knowledge Translation - Bridging Research Evidence, Practice and Policy

Thursday, Feb. 7, 2013  7:45 a.m. - 4 p.m.
Grey Nuns Community Hospital auditorium (Telehealth will be available)

Pre-registration required by Friday, Jan. 25, 2013:
www.caritas.ab.ca>Research

Research Day provides:
• researchers with an opportunity to showcase their research
• staff and physicians with an opportunity to learn of the latest research in their field, particularly research that may impact practice
• an opportunity to engage our partners at research events
• increased movement of research evidence into practice and policy

Includes:
• workshop and applied knowledge translation presentations
• poster presentations
• a discussion panel
• networking opportunities
• refreshments and lunch

For information please contact:
research@covenanthealth.ca
or call 780.735.2274
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<td>Outcomes of non-operative treatment of infrasyndesmotic fractures of the fibula</td>
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<td>The Exploration of perioperative program integration for Covenant Health</td>
<td>Johnson, Dianne</td>
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<td>Kroeker, Dr. Karen</td>
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<td>Osornio-Vargas, Dr. Alvaro</td>
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<td>Triscott, Dr. Jean</td>
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<td>1359</td>
<td>Self-talk about exercise in people with chronic obstructive pulmonary disease</td>
<td>Rodgers, Dr. Wendy</td>
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<td>1347</td>
<td>Thrombophilia in pregnancy prophylaxis study (TIPPS)</td>
<td>Khurana, Dr. Rahmi</td>
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<td>Analyzing sound quality of advanced bone anchored hearing aids</td>
<td>Hodgetts, Dr. William</td>
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<td>1360</td>
<td>Quality assessment of an assisted living care model relative to a traditional long-term care model</td>
<td>Camaghan, Carla</td>
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<td>Melatonin for initial insomnia in stimulant-treated pediatric ADHD</td>
<td>Vohra, Dr. Sunita</td>
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<td>Manca, Dr. Donna</td>
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<td>Family Medicine</td>
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<td>Fassbender, Dr. Konrad</td>
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<td>Gonzalez, Claudia</td>
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<td>Prevalence of MRSA, VRE and C. difficile among adults hospitalized in Canadian hospitals—a follow-up survey, 2012</td>
<td>Simor, Andrew</td>
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<td>Madan, Suparna</td>
<td>YH</td>
<td>Geriatrics</td>
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| 1374 | A phase 2B, Randomized, Double-Blind, Double-Dummy Placebo Controlled, Parallel group study to evaluate the efficacy and safety of once-daily orally administered PH-797804 for 12 weeks in adults with moderate to severe chronic obstructive pulmonary disease | Stollery, Daniel | GNCH | Pulmonary |
| 1322 | Investigation into wound healing, fibrosis, tissue engineering and regeneration | Tredget, Edward | MCH | |
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| 1390 | ACL attachment and bony geometric features on knee Magnetic Resonance Imaging in 10-16 year old Canadian pediatric patients: comparison between patients with torn and intact ACLs | Jaremko, Jacob | GNCH | |
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| 1383 | Shoulder MRI with and without arthrogram: is the needle necessary to diagnose labral tear in children in 2012? | Jaremko, Jacob | GNCH/MCH | |

1. PEOLCI – Palliative End of Life Care Institute
2. iRSM – Institute for Reconstructive Sciences in Medicine
3. CEEHC – Children’s Environmental Health Clinic
May Christ’s peace and joy be with you and your loved ones this Christmas and all through the new year!

Mary-Ann, Micheline, Peter
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