ACOTUP Researcher Profile

Name of researcher: Liisa Holsti, University of British Columbia, Scientist 2, Health Starts, Child and Family Research Institute

Degrees and professional qualifications (including fellowships): Bachelor of Science in Rehabilitation-1985; Master of Arts-1992; Doctor of Philosphy-2004; Associate Professor, Canada Research Chair in Neonatal Health and Development

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Area of research:
I worked clinically in the neonatal intensive care unit and in the Neonatal Follow-up Program as an occupational therapist for almost 20 years before becoming an academic. My program of research focuses on developing novel ways to promote healthy development in infants born preterm or critically ill. My research foci have included topics such as improving the assessment and management of painful and stressful procedures in infants cared for in the neonatal intensive care nursery. My work is being conducted directly in the clinical setting, the results of which can be applied to neonates cared for in Canada and beyond.

Research related awards and honor:

- Canada Research Chair: (2010-2020)
- Canadian Child Health Clinician Scientist award: (2005-2009)

Grants/funding history:

- Canadian Institutes of Health Research: (2014-2017)
- Canadian Institutes of Health Research: (2009-2015)
- Canadian Institutes of Health Research: (2011-2014)
- Alva Foundation: (2011-2013)
- SickKids Foundation: (2007-2009)

Research collaboration:
I have worked and continue to work with a wide variety of collaborators including those in Occupational Therapy, Pediatrics (Neontaology, Psychology, Developmental Pediatrics, Pain Services), Physical Therapy, Nursing, Nutrition Sciences, Engineering, Computing Sciences, Statistics, Medical Genetics, Neurosciences, and Music Therapy.

What is the most important thing in mentoring graduate students?
Most of my trainees come with a history of clinical experience. Thus, the most important thing in mentoring them is to have respect for their already established skills and to be flexible, adapting to the needs of each individual. For some this requires more hands on, regular meetings; for others who are more independent, I provide less direct support. For all, I start by determining what aspect of their training I can best support.

Most significant publications

- **Holsti L,** Grunau RE. Initial validation of the Behavioral Indicators of Infant Pain (BIIP). *Pain.*2007;132: 264-272. (This study provides the initial psychometric properties of a new infant pain assessment. This assessment is now being used in many countries around the world as the clinical standard and for research.)
- **Holsti L**, Oberlander T, Brant R. Does breastfeeding reduce acute pain in preterm infants in the NICU. A randomized clinical trial. *Pain.* 2011;152: 2575-2581. (This study was the first randomized controlled trial evaluating the effects of breastfeeding analgesia in preterm infants cared for in the NICU and was highlighted for world-wide media release by Elsevier Press. Infants who are mature enough to feed effectively have effective pain reduction.)
- Lavoie PM, Stritzke A, Ting J, Jabr M, Jain A, Kwan E, Chakkarapani E, Brooks McNamara PJ Brant R, **Holsti L (Senior Author)**. Oral glucose to reduce stress during neonatal echocardiography: A randomized trial. *PLOS One*, 2015, DOI:10.1371/journal.pone.0141015. (This study is the first to evaluate non-pharmacological interventions for reducing stress during a neonatal cardiac examination. The results showed that providing a pacifier is sufficient for keeping infants calm. This finding will change current international practice whereby infants are given sugar water to reduce stress-a treatment we found not to be effective. Thus infants will not be exposed to extra sugar needlessly.)

Tips would you give for new investigators:
1) Hire the most experienced person you can to run your research lab-they usually know more than you do about it and it is worth spending the money at the beginning so they can support you while you are getting your feet on the ground.
2) Don't take on too many committees at first, you need the time to get your teaching/research up and running-you'll have a long career and lots of time to contribute. 3) You'll have lots of opportunities presented to you, practice saying no so you can stay focused on what is most important to you personally and academically. 4) Get a good mentor or two. 5) Take a break and remember to breathe!

Resources/supports/training programs for new investigators:
I would recommend that new investigators attend grant and teaching development workshops available through their own institutions and through CIHR. Attend other faculty members classes to learn tips from more those more experienced. For those in pediatrics, I have been involved with the Canadian Child Health Clinician Scientist Program (www.cchcsp.ca) which provides salary support awards for new investigators. In addition, people can join free of cost the on line curriculum offered through CCHCSP which is case based and which covers areas such as negotiating contracts, managing employees, ethics, and a variety of methodological topics.