



FASD Network News

FASD SUPPORT NETWORK
OF SASKATCHEWAN INC.

May 2011 - Issue 28

A Note to our Readers

Hello Friends,

It is always a pleasure to collect the words and ideas that come together to create each issue of *Network News*. Every issue holds promise of what we at the FASD Support Network can offer to you, our readers from around our province, Canada, North America and even further away.

With each issue, we trust that you will take what is helpful to you, your family or those you support. We are hopeful that you will feel a sense of connection with others. When we all contribute and work together, good things will happen for individuals and families living with FASD. Recently, Executive Director, Jessica Kaban, attended the provincial budget announcement. She is confident that the increased funding in the area of FASD also holds great promise for the people of our province. For more information about the 2011 Budget, please visit the Government website and follow the links to budget information.

Something we think about often at the Network, is how amazing human brains truly

are. We talk with each other and really, whoever will listen, about the connection between brain and behaviour. Sometimes people find this link hard to understand. It is a bit perplexing. In this issue of *Network News*, our feature article explores some of the ways of the brain and how brain functioning influences behaviour. We hope this careful explanation may help our readers to grasp this sometimes perplexing topic.

Finally, we want to inform you of the upcoming **Annual General Meeting (AGM)** for the Network. The AGM will take place on June 11, 2011. If you are interested in learning more about the Network and our activities or would like a chance to meet with staff and board members, come out June 11, 2011, 10:00a.m. -12:00 p.m. For more details, contact one of us at the office.

Take care and happy Spring to all of you!

Beverly

Communications Coordinator

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Our Amazing Brains

We talk a lot about FASD being a *brain based condition*, but it's not always clear exactly what this means. Which parts of the brain can be affected? How can we tell, and what does it mean? Didn't I hear somewhere that we only use ten percent of our brain? My name is Jared Knoll, Project Coordinator for the Network, and in this article I'm going to talk a little bit about and how we can think of the brain like a map to gain a new perspective on FASD.

Coming to Your Senses

We experience the outside world through the senses of sight, hearing, smell, taste, touch and pain. For sight, you may think of your eyes as cameras sending images to your brain. This is one sense that the brain interprets, processes and responds to with behaviour.

Out in the physical world, this might be as simple and automatic as seeing a red light and applying your foot to a brake pedal. Individuals with FASD have the same linkage between brain and behaviour, but it's important to understand that their **interpretation and processing** may be very different. Having FASD sometimes means a different tolerance to sensory stimulation. This brain difference can result in highly varied behaviour responses.

Brains are almost unimaginably complicated. Even the top neurologists in the world don't entirely understand them!



We do know that there are six or seven important pieces that are particularly at risk to prenatal alcohol exposure. Of these, there are four that are especially responsible for brain-behaviour differences in people with FASD. Knowing more about those parts of the brain can make understanding FASD a lot easier.

The Limbic System

The first three make up most of what is called the *limbic system*. They are the: *hippocampus*, *hypothalamus* and *amygdala*.



The *hippocampus* connects **thoughts and memories**.



The *hypothalamus* maintains **stress levels**.



The *amygdala* connects **thoughts and emotions**.

The *hippocampus* plays a major role in the creation of new memories. When we talk about FASD and learning problems we mostly mean that people living with FASD have *hippocampal* differences.

COPING STRATEGY

Concrete learning, or learning -by-doing, is one way that individuals and families living with FASD can cope with *hippocampal* brain differences.

Changes made in the *hippocampus* by prenatal alcohol exposure primarily affect aural learning, and to a lesser extent, visual learning.

Learning-by-doing is an effective way to get around this brain difference.

The *hypothalamus* is like a thermometer in the brain. As we get stressed it tries to keep us at room temperature. Differences in the *hypothalamus* mean that people with FASD may have a much harder time coping with stress or managing emotional highs and lows.

The *amygdala* is the part that connects emotions to thoughts. Try to think of one fond memory and one that makes you angry. Now hold them in your mind. It's the *amygdala* that attached those emotions to your memories and played a big part in making you happy or angry at

Brains are Complicated!

Brains have many different parts and pieces. Each with a name and a different job. Some are for thinking and some are for feeling, but all are important.

Did you know that it is your **basil ganglia** that makes you grimace when you eat something gross or see someone being cruel?

Lots of parts of the brain even multi-task!



the time. For people with FASD the *amygdala* can sometimes act erratically. Inappropriate aggression is caused by an overexcited *amygdala*. On the other hand, if a person with FASD seems distant or withdrawn, their *amygdala* might be laying down on the job.

COPING STRATEGY

Take things slow.

Differences in the *hypothalamus* and *amygdala* mean that the 'weather' inside an individual's brain can be unstable. This makes it difficult to manage emotional responses. It can be helpful to slow down by practicing breathing exercises and communicating feelings very clearly, slowly and repetitively. Such strategies can help an individual manage emotions and shift from unstable weather to calm weather.

The Prefrontal Cortex

The *prefrontal cortex* is one of the biggest parts of the brain. It sits in the area between your forehead and temples. One of its most important jobs is called 'executive function', which you might think of as your manager.

In its executive function the *prefrontal cortex* is like a supervisor in your brain that oversees knowledge, decides whether it's appropriate and then produces behaviour.

Individuals with FASD often

know what ought to be done or how to behave, but brain differences get in the way of executive function. They can understand the rules of the dinner table or the swimming pool but injury to the *prefrontal cortex* prevents appropriate knowledge from being translated into appropriate behaviour.

At the front of the *prefrontal cortex* and right behind your eyeballs is the **orbitofrontal cortex**. This is where a brain takes events from the outside world, organizes responses and packages them into emotions.

Normally emotions help to enhance our lives by getting us what we desire and avoiding what we fear. Emotions play a big part in decision making. The *orbitofrontal cortex* is vulnerable to prenatal alcohol exposure. The outcome is that people with FASD often know what should be done but brain differences result in the wrong response.

The More You Know

In our society, there is so little understanding about the brain and how FASD is a brain-based condition that affects behaviour. These misunderstandings contribute to 'poor-fit' between individuals with FASD and the world around them. Lack of understanding of the link between brain and behaviour also contributes to the development of secondary characteristics of FASD.

Knowing how the brain works and how prenatal alcohol exposure causes brain differences is therefore an important way to spread awareness and wear away at poor-fits little by little. I've laid out a few of the key points here, but encourage you to learn more about the link between brain and behaviour. The more you know, the more you can teach and the more you can change.

Suggested Further Reading

Welcome to Your Brain by Sandra Aamodt and Sam Wang

The Human Brain Book by Rita Carter

Trying Differently, Rather Than Harder by Diane Malbin

The Secret Life of the Brain, PBS <http://www.pbs.org/wnet/brain/>

Research References:

Riley, E. & McGee, C. (2005). Fetal Alcohol Spectrum Disorders: An overview with emphasis on changes in brain and behaviour. *Experimental Biology and Medicine*, 230:6, 357-365.

Guerri, C., Bazinet, A. & Riley, E. (2009). Foetal Alcohol Spectrum Disorders and alterations in brain and behaviour. *Alcohol and Alcoholism*, 44:2, 108-114.



Fifth National Biennial Conference on Adolescents and Adults with Fetal Alcohol Spectrum Disorder: Social Justice - Moving Forward

April 18 - 21, 2012 at the Hyatt Regency in Vancouver

This conference will be a forum to share research, experience and practice in order to discuss how we can effectively sustain and enhance the lives of adolescents and adults with FASD, their families, service providers, and communities. It will address the levels of support for the needs and rights of adolescents and adults with FASD within our society, such as access to healthcare, housing, justice and employment, as well as ways to build on the strengths of existing systems to provide better support.

Abstract Deadline September 14, 2011

For more information please visit: <http://www.interprofessional.ubc.ca/Adults.html>

Call: (604) 822-2801 Email: ipinfo@interchange.ubc.ca

2011 Alberta FASD Conference

November 21 - 22, 2011 at the Hyatt Regency in Calgary

This multidisciplinary conference will feature keynote speakers, Gabor Mate (author of Hold onto Your Kids and In the Realm of Hungry Ghosts) and Martin Brokenleg (co-author of Reclaiming Youth at Risk: Our Hope for the Future). Sessions will have a special focus on mental health and addictions.

Abstract Deadline May 16, 2011

For more information, visit the Government of Alberta web site: <http://www.fasd-cmc.alberta.ca>.

Upcoming Workshop on Adult Diagnosis

Diagnosing FASD is a process and when it's possible to have an adult diagnosis completed, or access to a previous diagnosis, many people are left confused when reviewing the diagnosis. Learn how to 'read' the diagnosis and understand the impact of FASD upon behaviours.

Regina Community Clinic, May 18

9:00-10:30 (RSVP by May 16)

fasd@reginacommunityclinic.ca or leave a voicemail at 543-7880 ext. 268.

New Resources!!The Substance Using Women with FASD and FASD Prevention Project

Three excellent reports on this project's findings are all available from Research Initiatives for Social Change on the University of

Victoria's website:

<http://socialwork.uvic.ca/research/projects.htm>

A life of poverty is an uphill battle.

Now, imagine that same struggle under the weight of a disability, surviving on \$26 dollars a day.

This is the reality for many people with disabilities in the province.

DISC

Saskatchewan Disability Income Support Coalition

The Disability Income Support Coalition is working with the government to build a program that brings dignity back to a life lived with disability, but they're not there yet. The province is moving forward, but they need your help to succeed.

Please help by contacting your MLA. For more details, visit www.saskdisc.ca.

