Arctic FASD Regional Training Center

FASt Facts

August 2011 Volume 3, Number 1

Announcements

Train the Trainer & Comprehensive FASD Workshop – Anchorage

The Arctic FASD Regional Training Center will be holding a Train the Trainer/Comprehensive FASD Workshop in Anchorage in September.

- Monday, September 26 and Tuesday, September 27
- 8:30 a.m. to 4:30 p.m.
- UAA/APU Library Room 307
- Registration required

Cost: Free!

Participants may register for the workshop through September 21.

Continuing education credits are available. Please see our website for more details.

Scholarships to assist potential trainers with travel expenses are available. Eligible applicants should be health or allied health care providers living and working in rural Alaska,

Research *FASt Facts*: FASDs and the Brain

Where possible, we provide a link where the article can be purchased and/or downloaded. Research abstracts are provided for the purposes of discussion; they do not necessarily reflect the views or position of the Arctic FASD RTC or the CDC.

Alcohol Research & Health (the official journal of the National Institute on Alcohol Abuse and Alcoholism (NIAAA)) has an entire issue devoted to FASDs: Volume 34, No. 1, 2011.
All articles are available for download as PDFs for free. In addition, they also have the option of downloads for Kindle, iPad, and other eBooks and tablets.
ISSN: 1535-7414 (online)

Nardelli, A., Lebel, C., Rasmussen, C., Andrew, G. & Beaulieu, C. (2011) Extensive deep gray matter volume reductions in children and adolescents with fetal alcohol spectrum disorders. *Alcoholism Clinical & Experimental Research* 35(8):1404-1417.
Abstract: Background: The link between the numerous cognitive, motor, and behavioral difficulties of individuals with fetal alcohol spectrum disorders (FASD) and underlying specific structural brain injuries can be investigated using high-resolution imaging. Differential sensitivity of the brain's "relay" stations, namely the deep gray matter structures, may play a key factor given their multifaceted role in brain function. The purpose of our study was to analyze differences in deep gray matter volumes of children and adolescents with FASD relative to age/sex-matched controls and to examine whether any volume differences were consistent across the age range of neurodevelopment. Methods: Children and adolescents (N=28, 6 to 17 years) diagnosed with FASD and 56 age- and sex-matched healthy controls (i.e., 2 matched controls per FASD subject) underwent 3-dimensional T1-weighted MRI scans that were used for the automated volume measurement (FreeSurfer) of the intracranial space, total white matter, cortical gray matter, and 6 deep gray matter structures, namely the

especially those not on the road system. Recipients are required to conduct at least one FASD training in the 12 months following the workshop. Please see our website for more details and for a copy of the application form.

Travel scholarship applications must be submitted by Friday, August 19 at 5:00 p.m.

Call 907.786.6381 or check our website for more information:

www.uaa.alaska.edu/arcticfasdrtc/training/ComprehensiveWorkshop/index.cfm
or
www.uaa.alaska.edu/arcticfasdrtc/training/train-the-trainer/index.cfm

FASD 201 Workshop

Our next FASD 201 workshop will be held:

- Friday, August 26, 9:00 a.m. to 1 p.m.

The location for the workshop is University Center Room 144.

Cost: Free!

Registration is recommended. Call 907.786.6381 or check our website for more information:

www.uaa.alaska.edu/arcticfasdrtc/training/fasd201.cfm

Participants will be eligible to receive continuing education (CE) credits for completion of these workshops ($25.00 processing fee).

hippocampus, amygdala, thalamus, caudate, putamen, and globus pallidus, with left and right measured separately. Volumes were compared between FASD and controls, as well as changes with age. Results: Significant reductions of volume in FASD were observed for the intracranial vault (7.6%), total white matter (8.6%), total cortical gray matter (7.8%), and total deep gray matter (13.1%). All 6 deep gray matter structures showed significant volume reductions bilaterally with the caudate (approximately 16%) and globus pallidus (approximately 18%) being most affected. The hippocampus, thalamus, and globus pallidus showed reductions in all 3 age subgroups (6 to 9, 10 to 13, and 14 to 17 years) but the caudate and putamen had smaller volumes for FASD only within the 2 youngest subgroups; the amygdala was only smaller for FASD in the 2 oldest subgroups. Conclusions: Significant, but variable, volume reductions throughout the deep gray matter are observed over a wide age range of 6 to 17 years in FASD.
ISSN: 1530-0277 (online); DOI: 10.1111/j.1530-0277.2011.01476.x

Wozniak, J.R. & Muetzel, R.L. (2010) What does Diffusion Tensor Imaging reveal about the brain and cognition in fetal alcohol spectrum disorders? *Neuropsychology Review*.
Abstract: Over the past 5 years, Diffusion Tensor Imaging (DTI) has begun to provide new evidence about the effects of prenatal alcohol exposure on white matter development. DTI, which examines microstructural tissue integrity, is sensitive to more subtle white matter abnormalities than traditional volumetric MRI methods. Thus far, the available DTI data suggest that white matter microstructural abnormalities fall on a continuum of severity in Fetal Alcohol Spectrum Disorder (FASD). Abnormalities are prominent in the corpus callosum, but also evident in major anterior-posterior fiber bundles, corticospinal tracts, and cerebellum. These subtle abnormalities are correlated with neurocognitive deficits, especially in processing speed, non-verbal ability, and executive functioning. Future studies using larger samples, increasingly sophisticated DTI methods, and additional functional MRI connectivity measures will better characterize the full range of abnormalities in FASD. Ultimately, these measures may serve as indices of change in future longitudinal studies and in studies of interventions for FASD.
ISSN: 1040-7308 (print), 1573-6660 (online); DOI: 10.1007/s11065-011-9162-1

Zhou, D., Label, C., Lepage, C., Rasmussen, C., Evans, A., Wyper, K., Pei, J., Andrew, G., Massey, A., Massey, D., & Beaulieu, C. (2011) Developmental cortical thinning in fetal alcohol spectrum disorders. *NeuroImage* 58(1):16-25.
Abstract: Regional cortical thickness was evaluated using CIVET processing of 3D T1-weighted images (i) to compare the variation in cortical thickness between 33 participants with fetal alcohol spectrum disorders (FASD) aged 6–30 years (mean age 12.3 years) versus 33 age/sex/hand-matched controls, and (ii) to examine developmental changes in cortical thickness with age from children to young adults in both groups. Significant cortical thinning was found in the participants with FASD in large areas of the bilateral middle frontal lobe, pre- and post- central areas, lateral and

Helpful Resources

- CDC: What you should know about alcohol and pregnancy
- CDC: Lo que debe saber sobre el emabrazo y el alcohol
- Families Moving Forward
- Stone Soup Group
- ICEBERG
- FAS Diagnostic & Prevention Network
- SAMHSA FASD Center for Excellence
- State of Alaska Office of FAS

Intervention Corner

Eating and Mealtimes

- Feed babies in a dark, quiet room in the same position with the same person.
- Ensure children are at an appropriate level of alertness before the meal – she may need physical activity before settling to eat.
- Reduce visual and auditory stimulation – calm, quiet mealtimes work best.
- Use the same chairs at meal times, as well as the same bowls, cups, and silverware.
- Serve food on the plate all at once – any additions are usually refused.
- Avoid multi-textured foods such as soup or stew – and remember he might not eat his food if it touches other food on his plate. Use plates with separations for those who don't want their food to touch.
- Food with lemons or lemon flavor can be a favorite.
- Watch his reaction to the temperature of his food – he may only like it warm or at room temperature.
- She may need spicy food in order to taste

inferior temporal and occipital lobes compared to controls. No significant cortical thickness increases were observed for the FASD group. Cortical thinning with age in a linear model was observed in both groups, but the locations were different for each group. FASD participants showed thinning with age in the left middle frontal, bilateral precentral, bilateral precuneus and paracingulate, left inferior occipital and bilateral fusiform gyri; while controls showed decreases with age in the bilateral middle frontal gyrus, right inferior frontal gyrus, bilateral precuneus gyrus, and bilateral occipital gyrus. A battery of cognitive assessments of memory, attention, motor, and verbal abilities was conducted with many of the FASD participants, but no significant correlations were found between these cognitive scores and regional cortical thickness. Non-invasive measurements of cortical thickness in children to young adults with FASD have identified both key regions of cortex that may be more deleteriously affected by prenatal alcohol exposure as well as cortical changes with age that differ from normal developmental thinning.
ISSN: 1053-8119 (online); DOI: 10.1016/j.neuroimage.2011.06.026

FASDs in the Media

The links to news articles and opinion pieces presented below are provided for the purposes of discussion. The Arctic FASD RTC is not responsible for the titles and/or content of the articles, nor do they necessarily reflect the views or position of the Arctic FASD RTC.

United States

SEARHC hires Dr. Carmen Sugai as psychiatrist
Juneau Empire, August 8, 2011

N.D. couple raised four children with disabilities
Atlantic Highlands Herald, August 1, 2011

American College of Obstetrics & Gynecology calls for regular alcohol abuse screening
Drugfree.org, July 22, 2011

On the Move: Doctor heads research work
ArgusLeader, July 17, 2011

Light drinking OK for moms-to-be, study says, but Abilene docs doubtful
Reporter-News, July 17, 2011

SSRIs during first trimester increase risk of congenital abnormalities
Modern Medicine, July 15, 2011

International

Balancing FASD-justice scales
Lethbridge Herald, August 10, 2011

anything.

- Don't force her to eat or to sit at the table for long periods of time.
- Be flexible, but establish concrete rules at the dinner table. For example, chew what is in your mouth before adding more food.
- Small, frequent meals – up to six a day – may work better.
- Consider having the same meal on the same day each week.
- In a restaurant, have her back to the people and facing a quiet area.
- Sit in a quiet area of the restaurant – ask for seating away from the kitchen and entrance.
- Avoid noisy, crowded restaurants – go early.
- Always go to the same restaurant.
- Restaurants are over-stimulating and this will continue to have an effect on her as she ages – it's important to keep looking at her developmental age, not her chronological age.

(Adapted from Trudeau, D. (ed.) (2005) *Trying Differently: A Guide for Daily Living and Working with FASDs and Other Brain Differences*. Published by the Fetal Alcohol Syndrome Society Yukon (FASSY).)

Do you have an idea for the Intervention Corner? Do you have some tips or suggestions for how to help individuals with an FASD be successful? Email *FASt Facts* at arcticfasdrtc@uaa.alaska.edu and let us know!

Contact Us:

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Anchorage, AK 99508

Universities team up for fetal alcohol spectrum disorder research
Jewish Tribune, August 10, 2011

Booze and babies are a harmful mix
Whangarei Leader, August 9, 2011

FASD: '10-second kids in a one-second world'
Lethbridge Herald, August 6, 2011

Mom tricks suspected child lurer into arrest
Victoria News, August 3, 2011

Russia classifies beer as alcoholic
BBC News Europe, July 21, 2011

Booze destroyed Kiera's life before she was born – then killed her mum
Mirror, July 20, 2011

Arctic FASD RTC *FASt Facts*

Building on past and current FASD education and awareness efforts in Alaska, the goal of the *Arctic FASD RTC* is to increase FASD knowledge, awareness, and practice competence among health and allied healthcare professionals and students. Using the Centers for Disease Control and Prevention (CDC)'s *FASD Competency-Based Curriculum Development Guide*, we deliver education and training in the form of workshops, seminars, and other resources to professionals and students. We are also certified State of Alaska FASD101 trainers.

The *Arctic FASD RTC* is honored to have the assistance of our national consultants, and our advisory board. Assisting us with our training are our affiliate faculty and our speakers' bureau.

There are four other RTCs in operation around the United States: the Frontier FASD RTC, the Great Lakes FASD RTC, the Midwestern FASD RTC, and the Southeastern FASD RTC. All are funded through the Centers for Disease Control and Prevention.

About *FASt Facts*

FASt Facts is a monthly email newsletter with announcements and information about upcoming training opportunities, a sampling of FASD news and research from Alaska, the U.S.A., Canada, and around the world, as well as links to helpful resources. Please feel free to forward the newsletter to anyone you know who has an interest in FASDs.

FASt Facts is compiled and edited by the Arctic FASD RTC staff. We make every effort to provide links to original content, and to make sure those links are accurate at the time the newsletter is sent. The Arctic FASD RTC has no control over any links that change after publication of the newsletter. The Arctic FASD RTC is not responsible for

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the content of external Internet sites. News articles and research abstracts are provided for the purposes of discussion; they do not necessarily reflect the views or position of the Arctic FASD RTC.

We hope you find these newsletters helpful and informative. We welcome your input for content. Please send suggestions to arcticfasdrtc@uaa.alaska.edu.

About this message

You are receiving this email because you requested to receive updates from the Arctic FASD Regional Training Center.

To discontinue receiving these updates, please visit lists.uaa.alaska.edu/mailmain/listinfo/fastfacts. Scroll down to the bottom of the page, enter your email address, then click Unsubscribe or edit options.

Previous issues of *FASt Facts* can be found at our website or at the listserv archive.

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No official endorsement by the CDC for the content of this email is intended or should be inferred.