

***I PULLED AN ALL-NIGHTER FOR MY
HIGH SCHOOL GRADUATION AND
OTHER ADVENTURES OF A HEARING
IMPAIRED, DYSLEXIC
PSYCHOLOGIST***

**Seminar Presented for :
The Hillcrest Educational Center
Pittsfield, MA
December 2, 2008**

**Presented by: Kevin T. Blake, Ph.D., P.L.C.,
Tucson, Arizona**

In the efforts to comply with the appropriate boards/associations, I declare that I do have affiliations with or financial interest in a commercial organization that could pose a conflict of interest with my presentation.

Kevin T. Blake, Ph.D.

Owens shares in the following companies:

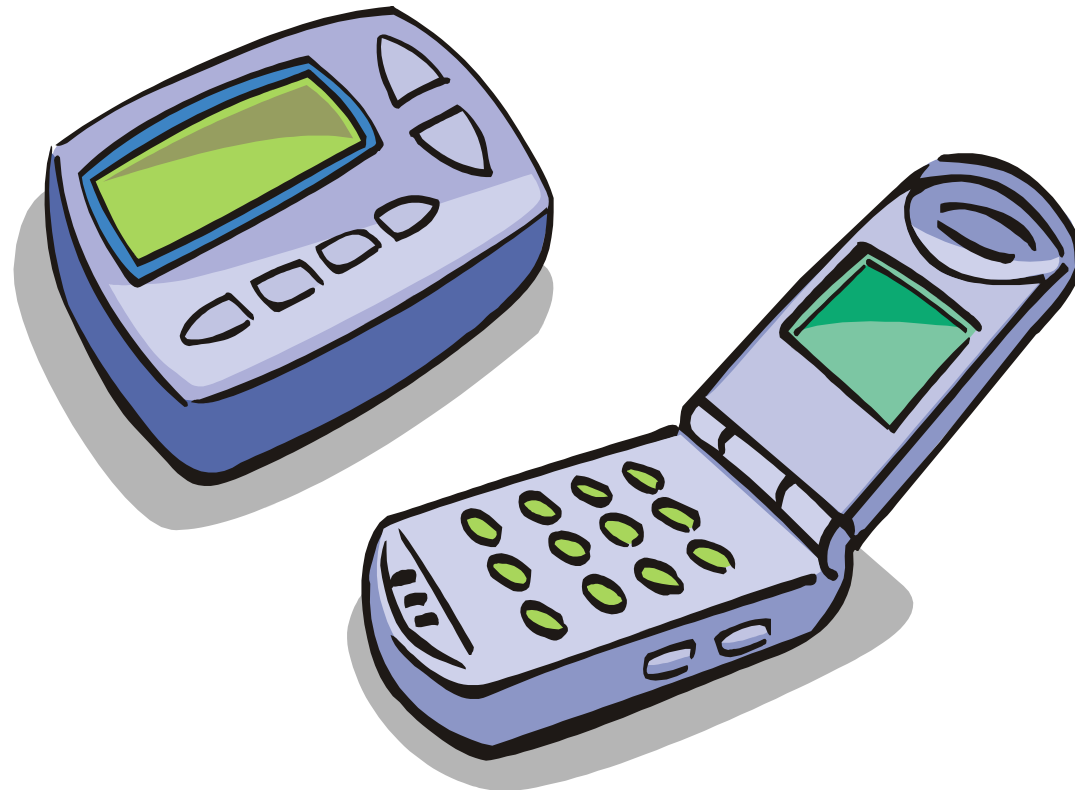
Amgen, Inc.

Johnson & Johnson, Inc.

Pfizer, Inc.



PLEASE TURN OFF YOUR CELL PHONES AND PAGERS



"At Risk" Family History

- Dad's side of the family:

- Dyslexia
- AD/HD
- Hearing Impairments
- Depression
- Addiction



- Mom's side of the family:

- Down's Syndrome
- Hearing Impairments
- Depression
- Addiction

Pregnancy

- My mother's age and difficulties during pregnancy put me at risk of having future difficulties.



The First Possible "Signs"

- In kindergarten I was the last kid who learned how to tie his shoes. My mom promised me a pair of loafers if I learned to tie my shoes, and I learned to tie my shoes!



The Hearing Screening

- In first grade I learned how to fake my way through the hearing screening at school. This I did for the next 12 years. I didn't want a hearing aid because I wanted to be allowed to play on the playground.



What's Soccer?

- When I started 1st grade I learned about soccer and begged for a soccer ball so I could learn how to play. My parents gave me one and I learned persistence.



Sports and Cascia Hall

- In school I loved basketball, but I never had the courage, or good enough self-esteem to go out for the varsity. I had poor self-esteem. Because I had poor self-esteem I played golf instead. Although I wasn't very good, I enjoyed it.



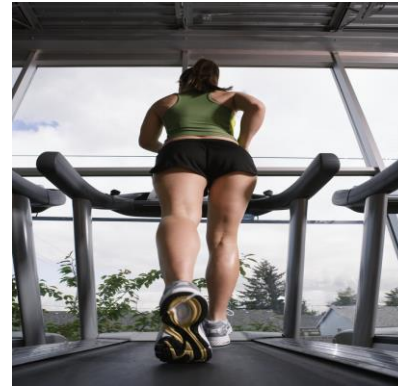
Cascia Hall and Sports

- I learned good sportpersonship and I loved exercise.
- This helped to reduce stress and depression through the years.
- I've had a lot of fun with sports, too!
- Exercise can help cognitive function as well:

Ratey, J. J., and Hagerman, E. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York: Little Brown.

Check with your physician before starting any exercise program.

Treatment of Anxiety



- Aerobic Exercise:
 - “As for the trait, the majority of studies show that aerobic exercise significantly alleviates symptoms of any anxiety disorder.” (p. 92)

Ratey, J.J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.

Check with your physician before starting any exercise program.

Treatment of Anxiety



Aerobic Exercise “Dosage”:

“Just multiply your body weight by eight to figure out how much you should be burning for the high dose, and then head to the gym to find out how many calories you burn during a given workout (most aerobic machines do this for you). If you weigh 150 pounds and burn 200 calories in thirty minutes on the elliptical trainer, you’d want to do six sessions a week to meet the high dose.” (p. 138)

Ratey, J.J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.

Check with your physician before starting any exercise program.

Stay Fit



Stay Flexible



Extra Reading Help

- Many days after school I went to reading tutoring and “speed reading” through 7th grade. It didn’t help much...



The First "You're Lazy!"

- Third grade: I stayed up until 11:00 PM with my dad trying to learn my multiplication tables. The next morning I didn't know them and the nun said, "Kevin, you're lazy!"



MY DAD, HIS COACH and My Inspiration

His coach was

Knute Rockne

Dad played on the 1930
Notre Dame National
Championship team.

There's dad

There's Rockne



First Tests

- During the third grade I was tested at the Oliphant Center on the Tulsa University campus. After my parents died I found the test report from that time. I was reading at the first grade level. Today that would be a warning sign of Reading Disorder/Dyslexia. Back then I was viewed as lazy or at best, immature.

“Kevin may see upside down.”

“In 8th grade the math teacher said she had seen a TV program on “Di-Lex-Something” which she described as children who see upside down. My parents immediately scheduled an appointment with a pediatric ophthalmologist. After waiting six months he examined me and I had 20/20 vision. Reading Disorder Dyslexia is not a problem with vision.

- **I need a volunteer from the audience.**

THE PAOMNNEHAL PWEOR OF THE HMUAN MNID

- Aoccdrnig to rscheearch at Cmabrigde Uinervisy, it deosn't mttar in waht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it wouthit a porbelm.

Davis, M. (2003). www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/

Rawlinson, G. (1999). Reibadailty. New Scientist. 162 (2188), p. 55. From website:
www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/newscientist_letter.html

First Learning Styles Insight

- Every year I usually earned A's and B's in all my classes except math where I received the gentleman's D. The summer between 8th and 9th grade I was sent to a summer math program offered by Fr. Ritter at Cascia Hall. There were 7th graders through 11th graders in the class. The first day of class he gave everyone a test to determine our skills.

First Learning Styles Insight

- The next day Fr. Ritter called me to his desk and went over my test results with me. He apologized for teaching me the wrong way! He said I'm going to make a \$5.00 bet with you for the missions. I bet in three days you will be teaching the 11th graders their assignments. If you can I pay \$5.00 to the missions. If I win you pay \$5.00 to the missions. But you have to agree to try. I did. Although, I thought he was crazy!

First Learning Styles Insight

In three days I was teaching the 11th graders; and it was easy. He put everything to me in words; not pictures. I think in words, not pictures.

“Mr. Blake what formula am I looking for?
Pontiac has one. It’s not a Trans Am, It’s a
Formula...”

“Formula 400!” “Right formula number 4!”



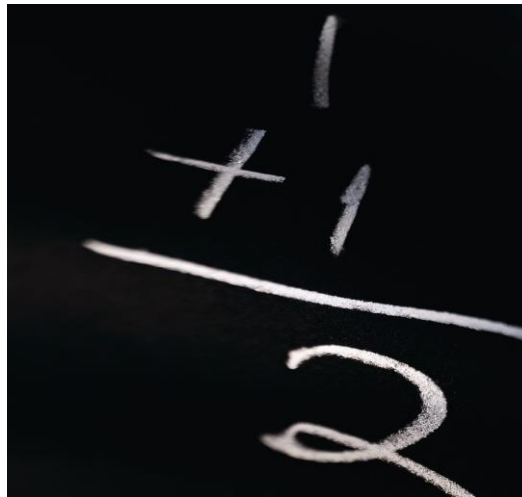
First Learning Styles Insight

The next fall when I started 9th grade the math instruction reverted back to the old way. And I continued to get all A's and B's except for my gentleman's D in math. I found myself in the section for the “dumb” kids...Formula 400!



First Learning Styles Insight

- After that it seemed that whenever I was interested in a career both my parents and teachers would say, “You can’t go into that! It requires math and you are not good at math!” But, there was that time at Cascia Hall I was good in math...



Career I Dreamt Of In High School

- Dr. Peter Smith's job at the University of Arizona
- Principal Investigator of the Phoenix Mars Lander Mission

<http://phoenix.lpl.arizona.edu/gallery.php>



Latin is a “Dead Language”

- At Cascia Hall I took two years of Latin. The class mainly involved memorizing and translating prayers and writings about Caesar, “Gaul was divided into three parts...”
- In college I was required to take a living language with a conversational component. I took Spanish and did a thoroughly poor job of it.

Latin is a Dead Language

- In college I was required to take 9 hours of a foreign language.
- Joe Capura, a seminarian at Notre Dame taught the first 6 hours.
- Four nights a week for 2 hours he tutored me.
- There were 24 A's and one gentleman's C. I got the gentleman's C.
- I just couldn't hear the sounds in the words.
- I was able to talk my way out of the third semester of Spanish and took Classical Archeology instead.

Linguistic Coding Difference

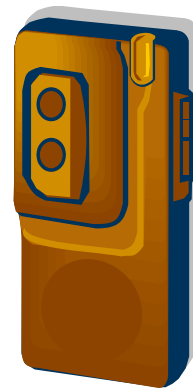
- Later I learned that many people with Dyslexia and other learning differences have trouble learning foreign languages.
- This is called Linguistic Coding Difference.
- I have problems processing the “phonemes” (smallest sounds of speech) in words. This is primarily due to dyslexia and secondarily to my hearing impairment.
- I went to a grad school where statistics and fortran were considered a foreign language.

Chemistry at Cascia

- In 11th grade I had great difficulty in Chemistry. Partly because I had problems with it and partly because I sat next to a cut-up, "...who got me in trouble."
- I really wanted to do better. My dad gave me a small (for the time) tape recorder and I started to tape the teacher's lectures. Then someone "ratted" on me. The teacher asked me why I was recording him. I told him I was trying to learn to imitate him. I got in trouble because I was too embarrassed to tell him the truth!

Audio Recordings in Grad School

- I recorded most of the lectures I had in grad school and wrote transcripts of the lectures.
- I played the recordings over and over in the car, in the shower, on the bus, while cleaning my apartment, etc.
- Today I buy recordings of the experts in my field and do the same.
- I learn best through hearing!

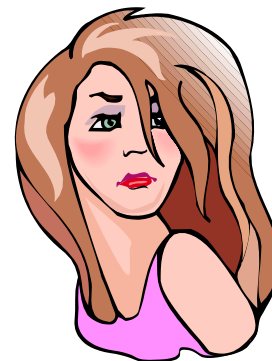


Social Skills

- At 16 my mother caught me looking at a cute girl in a restaurant and said, “Why don’t you ask her for a date? I guess you wouldn’t know how...”
- Teach your children small talk!



Flirting and Social Skills



- Cordoni stated you need the same behaviors to get a job as you need to get a date.

Cordoni, B. (1987). Living With A Learning Disability. Carbondale, IL: Southern Illinois University Press.

CASCIA HALL SPEECH CLASS

- Mr. Borchart taught the upperclassmen Speech. I took his class Senior year and excelled in it. It drew on my strength; the gift of gab. It helped to draw me out a bit.
- As Fr. Spielman said, “Kevin’s a late bloomer.”



Minimester and Finding a Mentor

In 11th and 12th grade I had minimester experiences at the Hissom Memorial Center and worked with severely mentally handicapped children under Cascia Hall coach, teacher and counselor Dr. Hal McBride. He also taught Senior Psychology and Anthropology. This began my interests in the social sciences.

Parent Teacher's Meeting: 11th grade

Fr. X asked my mother, “What are Kevin’s plans after he graduates?” My mother replied, “He plans on going to Notre Dame.” Fr. X replied after a hardy belly laugh, “Kevin should not even consider junior college he should go to VoTech.” I was an honors student at the time.

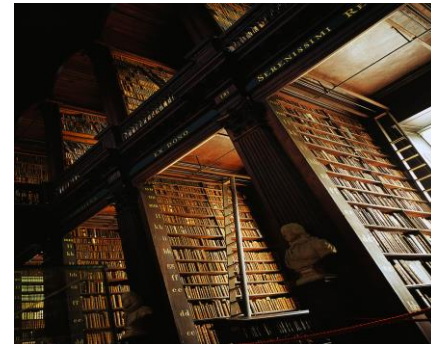


I Pulled an All-Nighter for my Cascia Hall Graduation

- The night before I graduated I learned I was to do the readings at the Baccalaureate Mass the next day. I tried to memorize them word for word, but couldn't. The next day I told the stories as if I was an apostle at a campsite. Some were offended, some were impressed, but no one learned my secret; I couldn't read!

How I Got Into Notre Dame

- I was an honor's student with good extra curricular activities
- My Dad and his experience with “Rock”
- Good letters of reference
- I went to a good college prep school
- I was interested in working with the mentally retarded for my life's work.



15 Years Later

- The week I received my doctorate I returned to Cascia Hall for a basketball game. Fr. X came up to me and said, “Kevin what’s new in your life?” I replied proudly, “I received my Ph.D. in psychology this week!” I received a stunned look...



First Moral to the story?



- Among other things, being frustrated and angry helped me to achieve. Tell me I can't do something and I will!

Second Moral to the Story

- Students have learning styles that are as unique to them as their thumbprint.
- Teachers, being human, also have learning styles and teach with a bias toward their own learning styles.
- Students can thrive when teachers teach their students with the unique learning style of each individual student.

Levine, M. (1987). Developmental Variation and Learning Disorders. Cambridge, MA: Educators Publishing Service.

Gardner, H. (1983). Frames of Mind: Theory of Multiple Intelligences. New York, NY: Basic Books.

Social Skills Help

- As a sophomore at Notre Dame I was depressed, almost flunking out and didn't have a girlfriend. So I went to the campus counseling center.
- I told the counselor I was depressed, I didn't have a girlfriend, I was almost flunking out, I couldn't read and I thought I was "death."

Social Skills Help

- He noticed I had a monotone voice, no facial expression and used no hand jesters as I talked. He started a crash course in social skills. He also did a lot of work with study skills. He didn't believe I couldn't read. Regarding being "death" he said, "You mean, DEAF?" I said, "Yes." He did nothing about that, but at least I learned the difference between the words 'deaf' and 'death'.

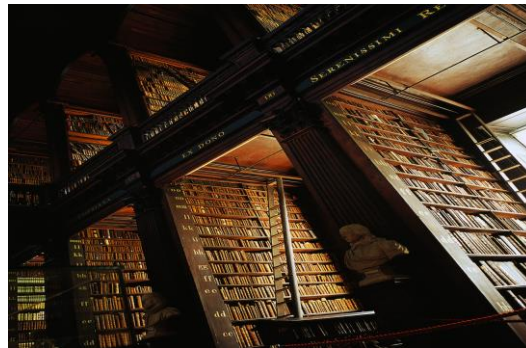
Developing Study Skills Programs

- Sophomore year I also started developing my own study skills strategies.
- I studied in one of two places: the campus library, always in the same chair; or, an abandoned room by the furnace in my dorm.



Developing a Study Skills Program

- When my friends went out on Friday and Saturday nights I was in the library until midnight. After that I spent a couple of hours in the “furnace room.” I was a “throat” (someone who studies all the time).



History Class at Notre Dame

- Sophomore year I took American History.
- There were 2 textbooks and 16 books to read.
- By final exam time I had read one textbook and one of the other books.
- I had 8 hours to study for the final exam.
- I got the highest grade out of the 150 people in the class.

History Class at Notre Dame

- A friend, who was in the same boat, wrote down the topics of every class lecture and got 8 encyclopedia descriptions of each.
- We then memorized these descriptions.
- When we finished we had concise, well written essays of every topic covered in the class.
- My friend got the second best grade on the final!

The Reputation

- I became known as a person who had systems to make learning easier.
- I was a master of using Cliff and Monarch Notes.
- I was a whiz at finding out about which professors to take and what to look for on their tests, etc.
- My last semester I made the dean's list

The Mystery of the Standardized Test

- Whenever I took a standardized test (SAT, ACT, GRE, etc.) my scores were much lower than my knowledge. It seemed I couldn't mark the correct circles on computer scantron sheets.
- My counselor at Notre Dame said, "I can't explain it Kevin. You are a smart young man. You just don't test well. Perhaps, someday you'll learn why."



“Are You Dyslexic?”

- During the first year of my doctoral program I was asked to get up and read two pages of text in front of the class. I butchered it and the professor called me on the carpet for being a cut-up. A fellow student asked me later, “Kevin are you dyslexic?”
- The same professor kept writing on my papers, “Kevin, get a dictionary!”

“The Meeting.”

- A group of grad school faculty called me to a meeting. They said I wasn't cutting it. I was hopelessly behind in my work and I didn't seem to grasp things socially. They showed me tapes of social faux pas of mine. The bottom line was clean-up your act or you're out of the program!



The Diagnoses

- After some soul searching I went to a Learning Disability expert and was diagnosed as Dyslexic.
- A behavioral optometrist said I had “vertical hyperphoria.” A form of double vision that made it difficult to record the correct answers on scantron sheets. It also explained why I could read only 15 minutes at a time before my eyes hurt.
- The audiologist found that I was hearing impaired and probably had been since birth.

Learning About Myself

- So at the age of 26 I got a pair of glasses with prisms, a hearing aid, and Recordings for the Blind and Dyslexic.
- I went to my first international conference on learning disorders and discovered not much was known about LD adults. At that point I decided that helping LD adults would be my life's work.
- I told all my professors and they were supportive.
- I grieved in silence.

Grief and AD/HD (Continued)

Murphy and LeVert wrote of the stages of coping with being diagnosed AD/HD:

Stage 1- Relief and Optimism

Stage 2- Denial

Stage 3- Anger and Resentment

Stage 4- Grief

Stage 5- Mobilization

Stage 6- Accommodation

Murphy, K.R., and LeVert, S. (1995). Out of the Fog. New York, NY: Hyperion.

The LD/AD/HD “Identity”

Rodis offered the ***Seven Stages of Identity Formation for Persons with LDs:***

1. The Problem-Without-A-Name Stage
2. Diagnosis
3. Alienation
4. Passing

Identity (Continued)

5. Crisis and Reconfrontation

6. “Owning and Outing”

7. Transcendence

Rodis, P., Garrod, A., and Boscardin, M.L. (2001). Learning Disabilities and Life Stories. Boston, MA: Allyn and Bacon.

Learning About Myself

- I bought a portable word processor/computer
- Drove a friend crazy having her teach me how to use it.
- It was necessary for me to take an extra year in grad school so I could complete the coursework.
- Life began to be less painful.

My First Test Accommodation

In 1992 I asked the Arizona Board of Psychologist Examiners for accommodations as a dyslexic for the licensure examination for psychologists. I was the first person to ask for accommodations under the American's with Disability Act in Arizona. They said, "What accommodations do you want?" After discussing this with the person who diagnosed me I requested extended time and someone to transcribe my answers to the computer scantron sheet. They agreed.

My First Test Accommodation

- I took 3 months off and studied on average 10 hours a day 6 days a week.
- I took a 5 day cram course in L.A., bought and poured over all the study materials.
- I studied in a library where homeless people would sleep on the tables. I would offer them my table. Some of them talked in their sleep.
- I studied in storms and the worst conditions I could find.

My First Test Accommodation



- I thought if I could pass practice tests in the most distracting environments possible I could pass the test in the testing center!

My First Test Accommodation

When I took the exam I was so well prepared for it I finished early. What really helped was the scribe. All my answers were placed in the correct circles. I received an 81%; 70% was passing. I passed the most difficult standardized test I ever took with flying colors!

Today

- I read scientific journals, but reading for pleasure is an oxymoron.
- For pleasure reading I use audio books.
- I am a lousy speller!
- My hearing has deteriorated significantly.
- I have developed tinnitus.
- Middle-aged presbyopia has joined the party.

Psychologist Kevin



Tessler (1998), a dyslexic psychologist wrote, “Today, people regard me as successful and assume I can do things I can’t do.” (p. 32)
“With or without a learning disability I must perform as well as my colleagues.” (p. 33)

Tessler, L.G. (1998). Accommodations Make Success Possible: A Personal Account. Perspectives, 24 (3), pp. 32-33.

Summary

- Get professional hearing and vision tests performed annually on your child.
- Don't put off getting your child a thorough evaluation even if you only slightly suspect they have learning difficulties.
 - Ask the staff of Hillcrest Educational Center where to go for such an evaluation.
 - Check out the organizations listed under Helpful Information below. They typically have lists of local people who can help.

If Your Child Has a Disability

- Learn as much as possible.
- Check out the organizations and books listed below.
- Consult with the Hillcrest Educational Center counseling staff and doctors who know about such difficulties in your area.
- Do not shelter your child from their disability.
- Teach you child about their disability and how to self-advocate.

Grief and Disability

- Grief is a natural reaction to loss.
- It is common for a person to grieve when they are diagnosed with a disability. The same is true of their loved ones and family.
- Speaking to a mental health professional can help with this process.
- Spiritual guidance can be helpful, too.

Inspire

- Help your child find something/someone to inspire them; like my dad did with Knute Rockne.
- Encourage your child to try difficult things.
- Mentor them.
- Encourage your child to stay fit and active. Teach them good sportpersonship.
- Heartfelt encouragement helps build self-esteem.
- Find things they can accomplish and encourage them to try them.

Make Sure Your Child Learns

- Study Skills: Hillcrest Educational Center staff can help with this as can the organizations and books listed below.
- Social Skills: You can give your child insights and the organizations and books below can be helpful.
- What Their Learning Style is and How to Adapt it to Their Teacher's Teaching Style: Hillcrest Educational Center Staff can help with this.

Helpful Information



Helpful Organizations

- Learning Disabilities Association (LDA): www.lda.org
- International Dyslexia Association (IDA): www.interdys.org
- Children and Adults with Attention Deficit Disorders (CHADD): www.chadd.org
- National Attention Deficit Disorder Association (ADDA): www.add.org

Helpful Organizations

- Nonverbal Learning Disabilities Association (NLDA): www.nlida@nlida.org
- MAAP Services for Autism and Asperger's Disorder: www.maapservices.org
- ADD WareHouse: www.addwarehouse.com
- LinguiSystems: www.linguisystems.com

HELPFUL BOOKS ON DYSLEXIA FOR PROFESSIONALS AND LOVED ONES

- Mather, N. and Goldstein, S. (2001). Learning Disabilities and Challenging Behaviors. Baltimore, MD: Brookes.
 - Reid, G. & Fawcett, A. (2004). Dyslexia in Context. Philadelphia, PA: Whurr.
 - ***Nosek, K. (1997). Dyslexia in Adults. Dallas, TX: Taylor.***
 - Bartlett, D. & Moody, S. (2000). Dyslexia in the Workplace. Philadelphia, PA: Whurr.
 - Goldstein, S. (1997). Managing Attention and Learning Disorders in Late Adolescence & Adulthood. New York, NY: John Wiley & Sons.
 - ***Silver, L.B. (2006). The Misunderstood Child, 4th Edition. New York, NY: Crown.***
- *BOOKS IN THIS FONT ARE GOOD FOR THE LAYPERSON***

HELPFUL BOOKS ON DYSLEXIA FOR PROFESSIONALS AND LOVED ONES

- ***Richards, R.G. (1999). The Source for Dyslexia and Dysgraphia. East Moline, IL: LinguSystems.***
- ***Roffman, A.L. (2000). Meeting the Challenge of Learning Disabilities in Adulthood. Baltimore, MD: Brookes.***
- Wren, C. & Einhorn, J. (2000). Hanging by a Twig: Understanding and Counseling Adults with Learning Disabilities. New York, NY: Norton.
- ***Rodis, P., Garrod, A., & Boscardin, M.L. (2001). Learning Disabilities & Life Stories. Boston, MA: Allyn and Bacon.***
- ***Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knopf.***

***BOOKS IN THIS FONT ARE GOOD FOR THE LAYPERSON**

AD/HD Books for Parents

- Barkley, R. A. (2005) [Taking Charge of ADHD: The Complete, Authoritative Guide for Parents \(3rd Edition\)](#). New York: Guilford.
- Barkley, R. A., & Benton, C. (1998). [Your Defiant Child: 8 Steps to Better Behavior](#). New York: Guilford.
- Silver, L.B. (2006). [The Misunderstood Child, 4th Edition](#). New York, NY: Crown.
- Tridas, E.Q. (2007). [From ABC to ADHD: What Parents Should Know About Dyslexia and Attention Problems](#). Baltimore, MD: International Dyslexia Association.

People Who Can Help with NVLD/Asperger's Disorder

- American Speech-Language Hearing Association:
www.professional.asha.org
- Behavioral Neurologist/Neuropsychiatrists and/or Neuro-Ophthalmologist: www.anpaonline.org and www.ama-assn.org
- Mental Health Professionals
- American Occupational Therapy Association:
www.atoa.org



Helpful Websites NVLD and Asperger's Disorder

- www.nldontheweb.org
- Nonverbal Learning Disability Association: www.nlda.org
- LD Online: www.ldonline.org
- MAAP Services for Autism and Asperger's Disorder: www.maapservices.org
- UC Davis M.I.N.D. Institute: www.ucdmc.ucdavis.edu/MINDInstitute
- Yale Child Study Center: www.med.yale.edu/chldstdy/autism/aspergers.html

Helpful Books NVLD and Asperger's Disorder

Ozonoff, S., Dawson, G., and McPartland, J. (2002). A Parent's Guide to Asperger Syndrome & High Functioning Autism. New York, NY: Guilford.

Neff, B., Neff-Lippman, J., and Stockdale, C. (2002). The Source for Visual-Spatial Disorders. East Moline, IL: LinguiSystems.

Attwood, T. (1998). Asperger Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley.

Thompson, S. (1997). The Source for Nonverbal Learning Disorders. East Moline, IL: LinguiSystems.

Good Book on Transitioning

Ford, A. (2007). On Their Own: Creating an Independent Future for Your Child with Learning Disabilities and ADHD. New York, NY: Newmarket Press.

Transition Programs

- Landmark College (Putney, VT):
www.landmarkcollege.org/
- Chapel Haven West: (CHWEST) is a Transitional Residential Program serving adults in the Autism Spectrum and those with mild Developmental Disabilities located in Tucson, Arizona.
<http://www.iser.com/chapelhaven-CT.html>
- Life Development Institute (Phoenix, AZ):
<http://www.lifedevelopmentinstitute.org/>
- Brehm OPTIONS Program (Carbondale, IL):
<http://www.options.brehm.org/>

There are other programs across the country.

READING DISORDER/DYSLEXIA

**Hillcrest Educational Center
Pittsfield, MA
December 2, 2008**

**Presented by: Kevin T. Blake, Ph.D., P.L.C.
Tucson, Arizona**

What Does Neurobiological Mean?

- Stephen Pinker – “The Blank Slate: The Modern Denial of Human Nature,” or better stated, “The Lie of the Blank Slate.”

Pinker, S. (2002). The Blank Slate: The Modern Denial of Human Nature. New York, NY: Viking.

- “Although learning disabilities may be exacerbated by other variables, such as ineffective teaching strategies or socioeconomic barriers, this paper supports the position that the essence of learning disabilities is neurobiological in nature.” (p. 61)

Fiedorowicz, C., et.al. (2001). Neurobiological Basis of Learning Disabilities. Learning Disabilities, 11 (2), pp. 61-74.

What Does Neurobiological Mean?

“Of particular relevance to this review is the compelling evidence in support of the neurobiological basis of learning disabilities. Studies employing widely divergent methodologies, e.g. research using genetic analysis, neuroanatomical neuroimaging, electrophysiological recording, pathological analysis of brain tissue at autopsy, and neuropsychological evaluation have yielded highly convergent conclusions in support of a neurobiological etiology.” (p. 70)

Fiedorowicz, C., et.al. (2001). Neurobiological Basis of Learning Disabilities. Learning Disabilities, 11 (2), pp. 61-74.

What Does Neurobiological Mean?



60% of Reading Disorder-Dyslexia is genetic.

Willcutt, E.G. and Gaffney-Brown, R. (Summer, 2004). Etiology of Dyslexia, ADHD and Related Difficulties: Using Genetic Methods to Understand Comorbidity. Perspectives, 30 (3), pp. 12-15.

I.Q. is 60 to 65% genetic.

Barkley, R.A. (2002A, Tape 1). ADHD Symposium: Nature, Diagnosis, and Assessment: Comorbidity and Developmental Course of ADHD. University of Massachusetts, January, Distributed by Stonebridge Seminars, Westborough, MA 01581.

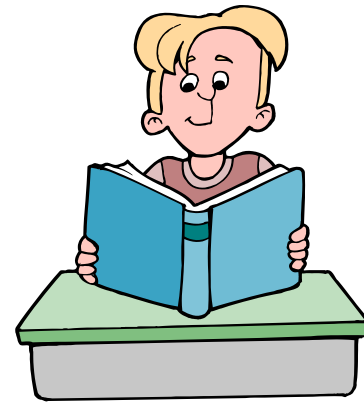
Prevalence of Dyslexia

- **10 to 15 percent of school-age children are dyslexic.**

Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

THE CONTROVERSY OF ADULT AD/HD AND DYSLEXIA: REAL ANSWERS AND SOLUTIONS FOR THERAPISTS

Although 5 percent of our adult population suffers from AD/HD, a neurobiological disorder first recognized in 1902, there continues to be controversies, misunderstandings and myths about this disorder and treatment. As a result, many adults with AD/HD struggle with chronic difficulties in relationships and in school and work settings. Without proper treatment, they are at risk for school failure and drop out, career failure, failed marriages, anxiety disorders, affective disorders and substance abuse.



What Is The Readability Level of The Previous Passage?

- Flesch-Kinaid Grade Level=12.0
- The Readability of the New York Times is 13th to 16th grade

WriteltNow (3/12/04). From website:

www.ravensheadservices.com/readability.htm , p. 3.

- Reader's Digest: 9th grade

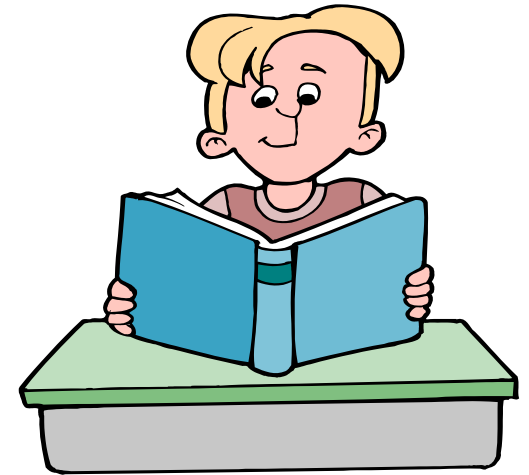
The English Language Learner Knowledge Base

(3/12/04). From website: www.helpforschools.com/ELLKBase/practitionerships/Fog_Index_Readability.shtml .

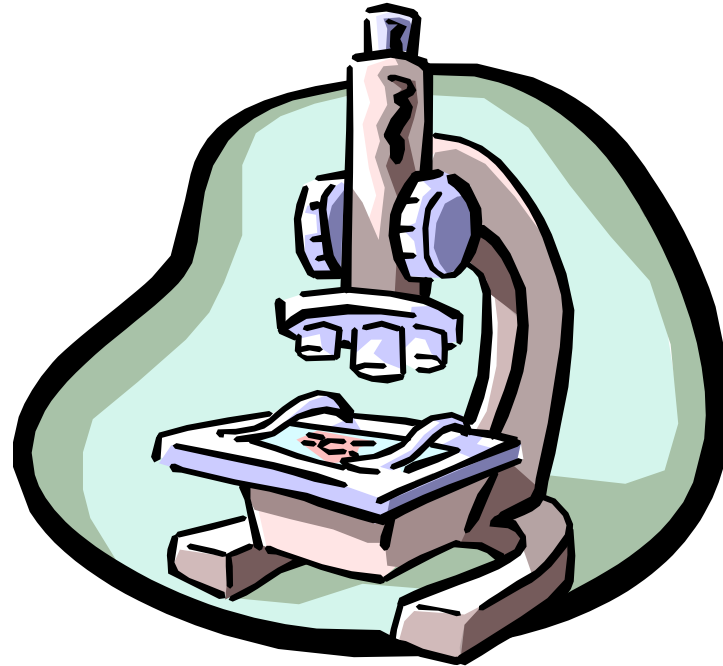
- 1 in 5 Americans reads below the 5th grade level and the average American reads at the 8th grade level!

Pfizer Clear Health Communication Initiative (3/12/04).

Improving Health Literacy. From website: www.pfizerhealthliteracy.com_fry.html



Your Tax Dollars At Work



***RESEARCH PROGRAM IN READING
DEVELOPMENT, READING DISORDERS, AND
READING INSTRUCTION***

Initiated 1965

A Good Book That Summarizes this Research

- Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

http://www.guilford.com/cgi-bin/cartscript.cgi?page=pr/fletcher.htm&dir=pp/neuropsych&cart_id=169929.5486



Your Tax Dollars At Work

- Run by the National Institute of Child Health and Development (NICHD)
- Which is part of the National Institute of Health (NIH)
- Study began in 1965 and continues today!
- As of 1999 over **\$150,000,000.00** has been spent!
- Study now budgeted for **\$15,000,00.00** per year!

Your Tax Dollars At Work

- Conducted at 42 sites in the U.S. and Europe
- Follow-up studies for over 14 years
- Much of the neurological research in this presentation comes from this study.
- China, England, Israel, Russia, Sweden and Turkey have conducted similar studies...

Lyon, G.R. (1999). In Celebration of Science in the Study of Reading Development, Reading Disorders and Reading Instruction. Paper presented at the International Dyslexia Association 50th Annual Anniversary Conference, November 4, 1999, Chicago, IL.

Your Tax Dollars At Work

- 30,000 scientific works from NICHD research
- 44,000 studied, 5 yrs old and up; with 5 year follow-ups
- No Child Left Behind
 - 38 to 40% overall illiteracy rate in U.S.
 - 70% illiteracy/African Americans
 - 65% illiteracy/Hispanic Americans
 - They don't have the English language literacy and speech experiences of other ethnicities.

Lyon, G.R. (Thursday, February 27, 2003). Application of Scientific Research Methods to the Study of Naming Deficits: Systematic Interventions to Improve Fluency in Word Reading Skills and Comprehension. Paper Presented at the 40th Annual Learning Disabilities Association Conference, Chicago, IL, Session T-39.

Your Tax Dollars At Work

- 48,000 children have been in the study as of 2004. The follow-up study is now 21 years.
- 3,800 in new adult study
- “2 to 6% of the population are the ‘Hard Core’ Dyslexics that will not improve with “Good Instruction’. They have the full dyslexic neurology and need multi-sensory approaches”.

Lyon, G.R. (March 19, 2004). A Summary of Current NICHD Research Findings in Math and Reading Development in English Speaking Children and Plans For Future Research. Seminar Presented at the 41st Annual Learning Disabilities Association of America International Conference, Atlanta, Georgia, March 17 to March 20, 2004.

Your Tax Dollars At Work

- 3 to 5% of community samples experience Major Depressive Disorder in lifetime
- Dysthymic Disorder is 3%
- 3 to 13% Social Phobia
- 3 to 5% Generalized Anxiety Disorder
- 0.4 to 1.6% Bipolar Disorder

American Psychological Association (1994). Diagnostic and Statistical Manual of Mental Disorders, IV Edition. Washington, DC: American Psychiatric Association.

Reading Disorder-Dyslexia

“The idea that learning to read is just like learning to speak is accepted by no responsible linguist, psychologist, or cognitive scientist in the research community.” (pp. 285-286)

Stanovich, K.E. (1994). Romance and Reality. The Reading Teacher, 47, pp. 280-291.

Reading Disorder-Dyslexia



The Symptoms of Dyslexia are:

- 1. Weak Phonemic Awareness***
- 2. Slow Rapid Automatized Naming***
- 3. Poor Orthographic Processing***
- 4. Exceptionally Poor Automatization***
- 5. Poor Coordination***

Fawcett, A.J. (2001). Dyslexia: Theory & Good Practice. Philadelphia,
PA: Whurr.

Blake, K.. (2003) Personal Observation.

Rapid Automatized Naming Difficulties

“Many individuals with dyslexia not only have difficulties in manipulating the sound structures of language, but also show difficulties on tasks that require them to name letters or digits (or even objects) as rapidly as possible.” (p. 89)

Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

Rapid Automatized Naming Difficulties

Problems with ‘Demand Speech’:

- “Bill in one minute I will be asking you who is buried in Grant’s tomb.”
- One minute later: “Bill who is buried in Grant’s tomb?”

Anderson, C.W., Jr. (2000). Personal Communication.

THE PAOMNNEHAL PWEOR OF THE HMUAN MNID

- Aoccdrnig to rscheearch at Cmabrigde Uinervisy, it deosn't mttar in waht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it wouthit a porbelm.

Davis, M. (2003). www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/

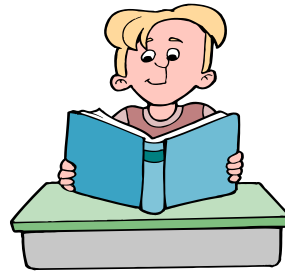
Rawlinson, G. (1999). Reibadailty. New Scientist. 162 (2188), p. 55. From website:
www.mrc-cbu.cam.ac.uk/~mattd/Cmabrigde/newscientist_letter.html

“LEXDEXIA?”

“Most individuals with dyslexia have no problem with visual perception, visual memory, or awareness of direction and space. They do not see letters or anything else in reverse or mirror image, although they may transpose or reverse letters in reading and writing. They confuse similar letters, misread similar words, and have trouble forming letters, but these problems usually are associated with language processing weaknesses” (P. 5).

Moats, L.C. (1999). Basic Facts About Dyslexia, Part II: What Every Professional Ought to Know (The Orton Emeritus Series). Baltimore, MD: The International Dyslexia Association.

“LEXDEXIA”



- “reversals” (seeing “was” as “saw”) and “rotations” (“b” as “p”; “p” as “d”, etc.) occur in most children up through forth grade. This is typical in the development of visual orthographic memory.
- Only about 7% of adult dyslexics have this concern.
- **Dyslexia is not seeing the word “WAS” as “SAW”.**

Anderson, C.W., Jr. (January 23, 2006). Personal Communication.

Badian, N. A. (2005). Does a Visual-Orthographic Deficit Contribute to Reading Disability? Annals of Dyslexia, 55 (1), pp. 28-52.

Definition Of Dyslexia

“Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include...

Definition Of Dyslexia

(Continued)

...problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.”

Adopted by the National Institutes of Health (NIH) and the International Dyslexia Association (IDA) 2002

International Dyslexia Association (April 20, 2005). IDA/NIH Adopts A New Definition of Dyslexia. From website:

www.interdys.org/serlet/compose?section_id=8&page_id=69, Page 1 Of 2

Dyslexia And Gender



- Sally Shaywitz (1996) reported:
 - ◆ Women's brains appear to have bilateral phonological processing.
 - ◆ This may explain why women tend to have fewer language deficits after left brain strokes.
 - ◆ It may also explain why more women than men compensate for dyslexia

Shaywitz, S.E. (1996). Dyslexia. Scientific American, 275 (5), pp. 98-104.

Why Don't Dyslexics Get Better With Age?

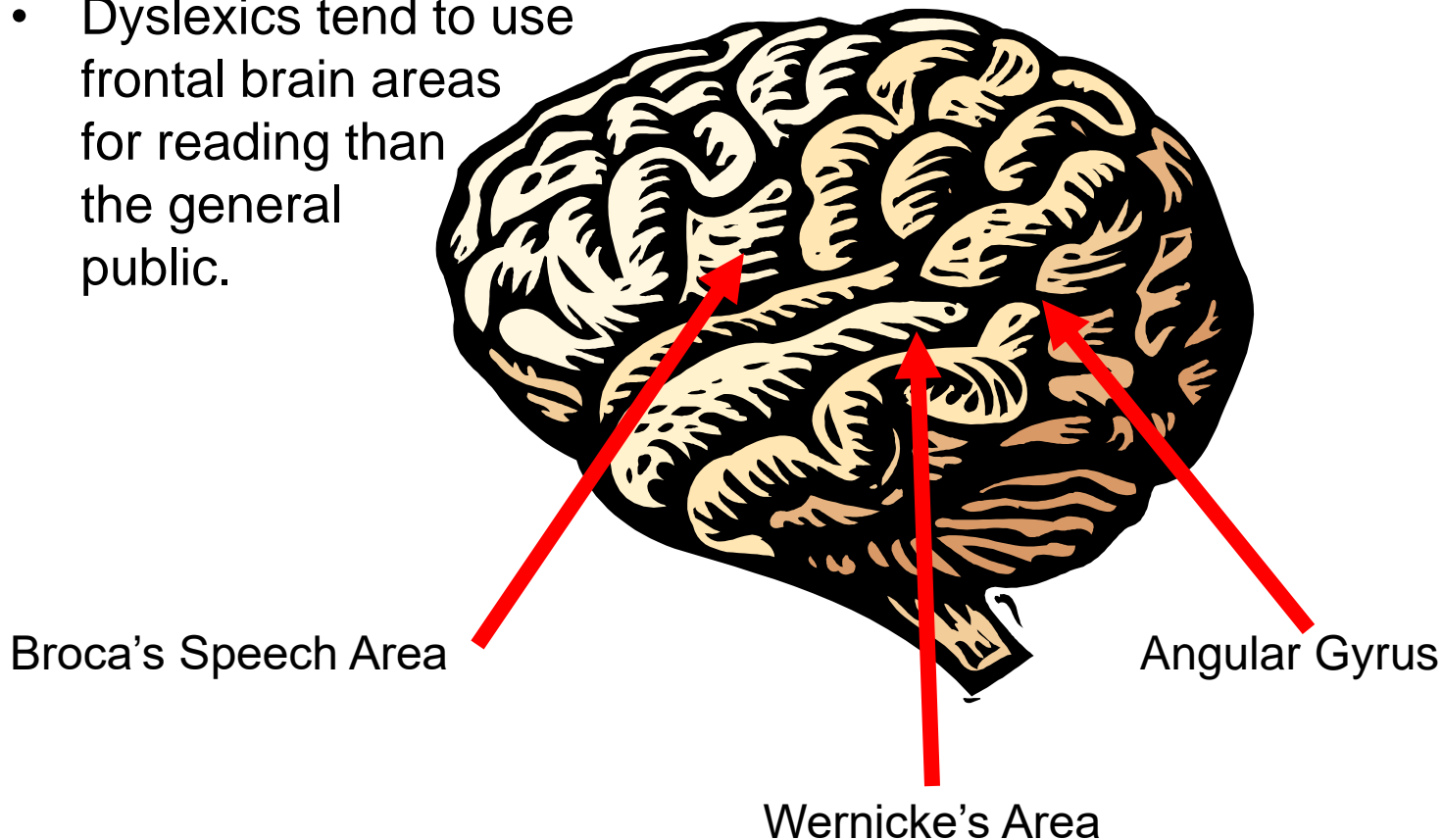
- Dyslexics also use an auxiliary system for reading in the Right Frontal lobe that allows for accurate, but slow reading.

Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knopf.

The Brain and Dyslexia

Murray, B. (March, 2000). From the Brain to Lesson Plan. Monitor On Psychology, 31 (3), p. 24.

- Dyslexics tend to use frontal brain areas for reading than the general public.



Why Don't Dyslexics Get Better With Age?

- “The identical posterior disruption is observed in children and adults—neurologic proof that the problems do not go away. They are persistent, and now we know why.” (p. 82)

Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knopf.

The Neurology Of Reading Disorder-Dyslexia

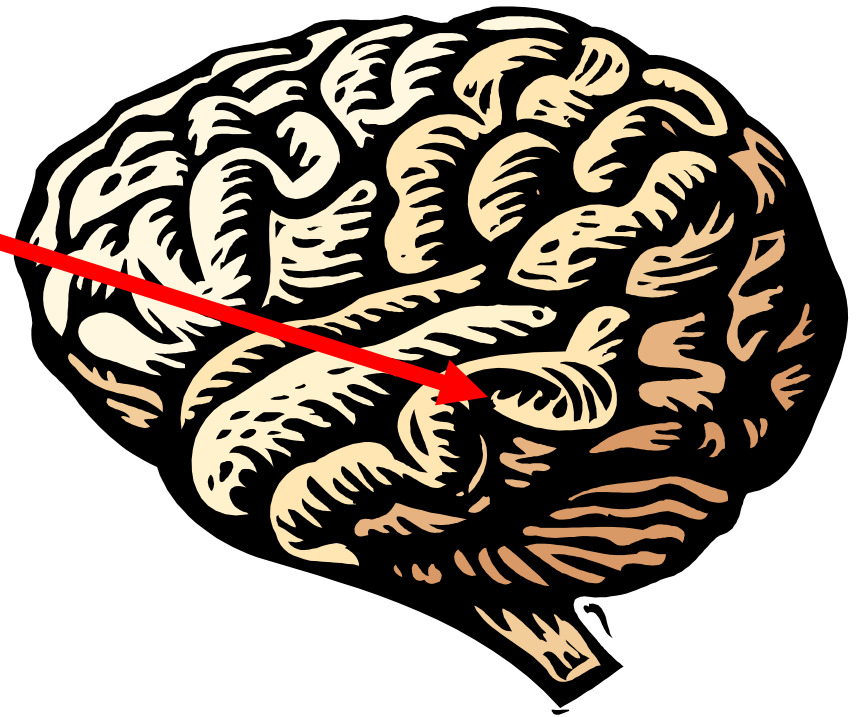
- an irregularity in the cellular architecture of the posterior planum temporale region of Wernike's area in the left temporal lobe
- they have ectopias and dysplasias in far greater numbers
- results of 9 autopsies of dyslexics

Duane, D.D. (1993). Developmental Disorders of Learning, Attention, and Affect. Videotape prepared by the Institute for Behavioral Neurology, 10201 North 92nd Street, Suite #300, Scottsdale, AZ.

Riccio, C.A., and Hynd, G.W. (1996). Neurological Research Specific to the Adult Population with Learning Disabilities. In N. Gregg, C. Hoy, and A.F. Gay (Eds.), Adults with Learning Disabilities: Theoretical and Practical Perspectives. New York, NY: Guilford, pp. 127-143.

The Brain and Dyslexia

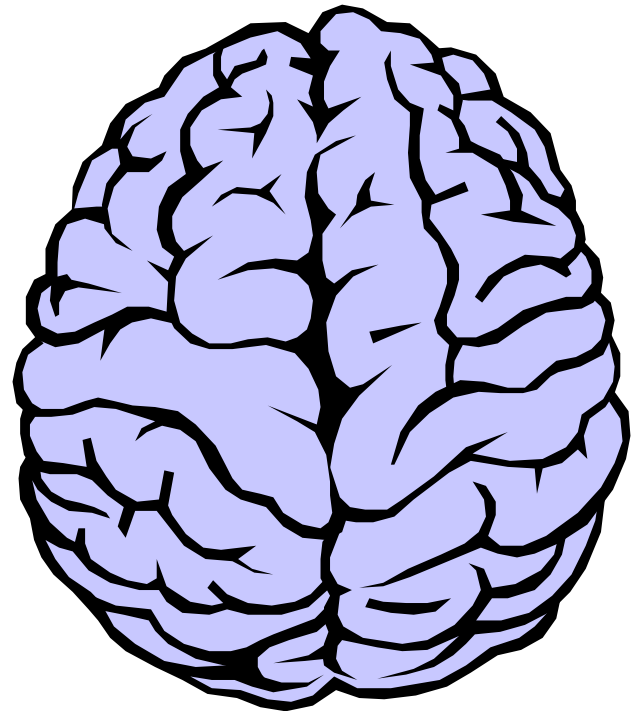
- The posterior planum temporale region of Wernike's area in the left temporal lobe



The Brain and Dyslexia

- 2/3rds of normals have asymmetry of planum temporale (Lt > Rt).
- Dyslexics' planum temporale are symmetrical.
- These differences are important as this area is related to one of the functional difficulties of dyslexia—language.

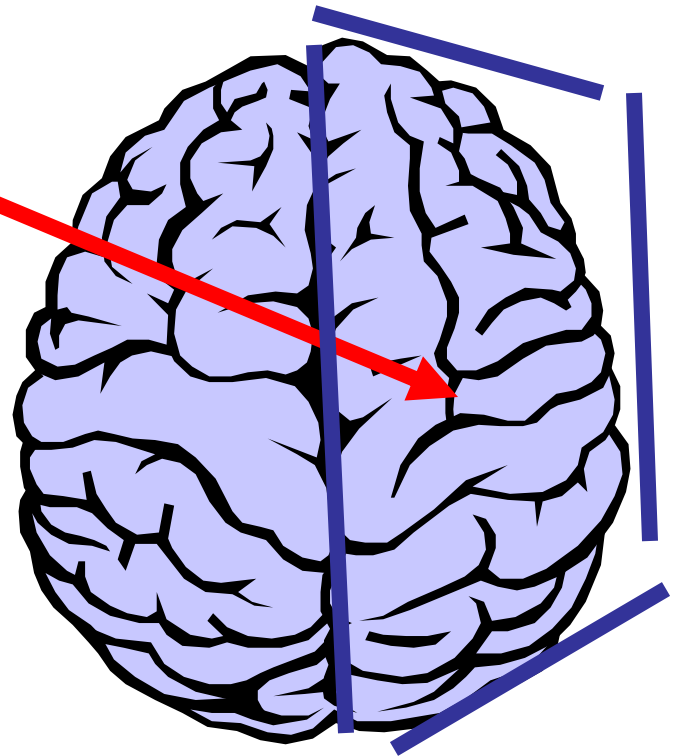
Fiedorowicz, C., et. al. (2001). Neurobiological Basis of Learning Disabilities. Learning Disabilities, 11 (2), pp. 61-74.



The Brain and Dyslexia

- Dyslexics tend to have a larger right hemisphere than left in adulthood.

Filipek, P.A., et.al. (1999). Structural and Functional Neuroanatomy in Reading Disorder. In D.D. Duane (Ed.), Reading and Attention Disorders: Neurobiological Correlates. Baltimore, MD: York, p. 48.)



Dyslexia And The Cerebellum

“Our neuroanatomical analysis of the Orton Society brain bank showed differences in cell size and cell-size distribution in posterior and anterior cerebellar cortex, and inferior olive with no differences in the output areas (the dentate nucleus). The PET study of motor sequence learning showed that there were abnormalities in cerebellar activation in automatic processing and in new learning, for subjects in our panel who had cerebellar signs...”

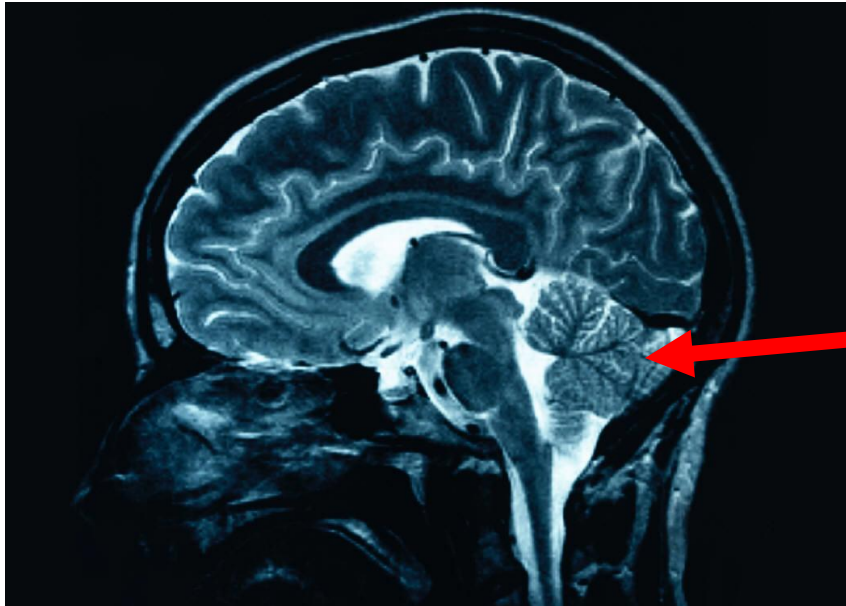
Dyslexia And The Cerebellum

(Continued)

“...Rather than the expected cerebellar activation in these tasks, the dyslexic subjects showed greater frontal lobe activation in new learning, suggesting they were bypassing the cerebellum to some extent, and relying on conscious strategies. These important findings confirm the behavioural evidence of cerebellar dysfunction, and suggest that the dyslexic subjects use different methods in sequential learning and automatic performance” (p. 98-99).

Fawcett, A.J., Nicolson, R.I. (2001). Dyslexia and The Role of The Cerebellum. In A.J. Fawcett (Ed.), Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr, pp. 89-105.

Dyslexia and the Brain



- The Cerebellum is different in Dyslexics from the general population.
- Cerebellum

Dyslexia And The Cerebellum

80% of dyslexics show signs of cerebellar problems!

Fawcett, A.J., Nicolson, R.I. (2001). Dyslexia and The Role of The Cerebellum. In A.J. Fawcett (Ed.), Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr, pp. 89-105.

Dyslexia And The Cerebellum

- **Automaticity is the problem!**
- Multi-tasking and rapid processing are needed.
- Thinking is a frontal lobe function.
- It is a problem of fluency.
- “...fluency is in essence the ability to repeat previous actions or thoughts, more and more quickly without conscious thought” (p. 101).

Fawcett, A.J., Nicolson, R.I. (2001). Dyslexia and The Role of The Cerebellum. In A.J. Fawcett (Ed.), Dyslexia: Theory & Good Practice. Philadelphia, PA: Whurr, pp. 89-105.

Dyslexia And The Cerebellum

Nicolson Said Bottom Line:

“...That means if you have a task that takes 4 hours for the non-dyslexic kid to learn, it will take twice as long for the dyslexic kid; 8 hours. But, it's not linear. You have a task which takes 100 hours it will take 10 times as long. If you have a task that takes 10,000 hours it will take 100 times as long, and so on...Therefore if you have something like reading, writing and spelling which takes 100s...”

Dyslexia And The Cerebellum

(Continued)

“...of hours that’s the sort of thing in which dyslexic children are particularly adversely affected.”

Nicholson, R., and Fawcett, A. (November, 2000). Dyslexia The Cerebellum and Phonological Skill . Paper presented at the International Dyslexia Association Annual Conference, Washington, DC.

Dyslexia And Procedural Training

- The ***Square Root Rule:***

“The extra time needed for a dyslexic child to master a task is proportional to the square root of the time a non-dyslexic child takes” (Slide 45).

Fawcett, A. (November 5, 2004). Dyslexia and Learning. Paper presented at the 55th International Dyslexia Conference, Philadelphia, PA, from handout of slides, Number 45.

Exhaustion and Anxiety



Exhaustion and Learning Disorders



Roffman wrote, “One final ongoing issue that is worthy of mention for many with LD/ADHD is the problem of fatigue. The extra effort required to cope with the continued social and academic demands of schooling can be chronically exhausting” (p. 217).

Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.

LD Life Insight



“The process of continually compensating can be deeply tiring. Betty notes that she often is exhausted as a direct result of the enormous effort that she expends on building on her strengths and working around her weaknesses. She notes, ‘You’re always compensating and you’re tired a lot’ (p. 261).

Roffman, A. (2000). Meeting the Challenge of Learning Disabilities in Adulthood. Baltimore, MD: Brookes.

Mr. Waterman's Lost 6th Sense



- What is our 6th sense?
- Proprioception
- “No one understood what was wrong or why my life was such a struggle...Sometimes I wonder. It’s been a huge mental drain on me and still takes an awful lot of cognitive energy to maintain my movements” (p. 18).

Azar, B. (June, 1998). Why Can’t This Man Feel Whether or Not He’s Standing Up? Monitor of the American Psychological Association, 29 (6), pp. 48-49.

Mr. Waterman's Lost 6th Sense

Cole, J. (1995). Pride and a Daily Marathon.
Boston, MA: MIT Press.

<http://www.gla.ac.uk/departments/philosophy/Personnel/susan/RossDan/LossofProprioception.htm>



Anxiety and Learning Disorders//AD/HD



Roffman wrote, “Adults with LD/ADHD often experience pressure as they work to cope with their symptoms. Anxiety develops out of such day-to-day occurrences as the loss of yet another set of keys...” (p. 49).

Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood. Baltimore, MD: Brookes.

Other Dyslexia Facts

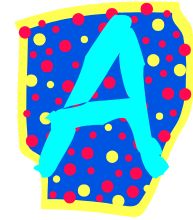


Are There Dyslexics In Other Countries/Languages?

- Yes!
- Cultures with less complex phonemically regular languages (i.e., Italian) will have dyslexics with less severe reading disorder symptoms, than English or French.
- However “...the neurologic mechanisms of dyslexia are similar regardless of native language.” (p. 44)

Geller, B. (May, 2001). Dyslexia: A Disease Without a Country. Journal Watch: Psychiatry, 7 (5), p 44.

How To Help Dyslexic Adults With Reading



National Reading Panel

Panel of government funded experts released a report to United States Congress (April 13, 2000)

- Reviewed over 100,000 reading research articles published since 1966
- 10 to 15 percent of dyslexics will drop out of high school.

How to Help Dyslexic Adults With Reading

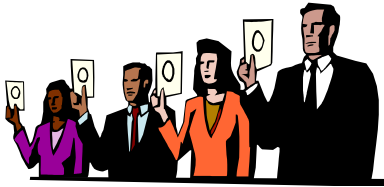
National Reading Panel



- First teach phonemic awareness (rhyming, clapping out word sounds, etc.)
- Second teach phonics (sound to symbol)
- Third teach Whole Language
- In this order with dyslexics

National Reading Panel (4/13/2000). www.nichd.gov/publications/pubs/readbro.htm

How To Help Dyslexic Adults With Reading



“Although the NICHD research indicates that there is no cure for RDD (sic-Reading Disorder-Dyslexia), many RDD adults can improve their reading skills by remediation with a systematic-synthetic multisensory-phonics technique. For example the adult with RDD is asked to look at a phoneme (one of the 44 sounds of the English language in letter form), make the sound of the phoneme (i.e., B - ‘b’) and then with their fingers...

How To Help Dyslexic Adults With Reading



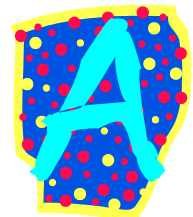
...trace the letter as they look at it and say its sound. This 'see it-say it-trace it' technique has been quite successful in teaching those with RDD to read. Perhaps the best known of these teaching methods is the Orton-Gillingham. However, there are over 10 other systematic-synthetic-multisensory-phonics techniques that are equally helpful.” (p. 31)

Blake, K.T. (May/June, 2000). Two Common Reading Problems Experienced by Many AD/HD Adults. Attention!, 6 (5), p. 30-33.

Multisensory Teaching Techniques

- Orton-Gillingham Approach
- Alphabetic Phonics
- Association Method
- Language!
- Lexia-Herman Method
- Lindamood-Bell

International Dyslexia Association (2005).
Framework for Informed Reading and Language Instruction: Matrix of Multisensory Structured Language Programs.
Baltimore, MD:
International Dyslexia Association.

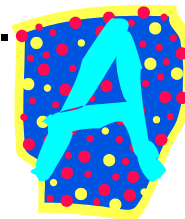


Multisensory Teaching Techniques (Continued)

- Project Read
- Slingerland
- Sonday System
- Sounds in Symbols
- Spalding Method
- Starting Over
- Wilson Foundations & Wilson Reading

International Dyslexia

Association (2005).
Framework for Informed
Reading and Language
Instruction: Matrix of
Multisensory Structured
Language Programs.
Baltimore, MD:
International Dyslexia
Association.



Other Reading Problems

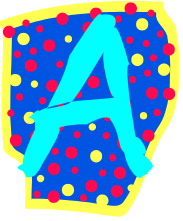


- Reading Disorder of Whole Word Decoding
- Reading Disorder of Recall/Comprehension
- Reading Disorder of Oral Reading-Word Finding/Paralexia
- Reading Disorder-Hyperlexia
- Reading Epilepsy
- Aphasia/Alexia/Acquired Dyslexia
- Linguistic Coding Difference (Foreign Language)
- Reading Disorder-Reversals (“was” as “saw”) and Rotations (“b” processed as “p”)
- Reading Comprehension and Rate Problems due to Depression/Anxiety

Is There Any Evidence That Using Synthetic Multisensory Phonics Works With Dyslexics?

- *YES!*
- Shaywitz (2003) wrote of research where dyslexic children who were taught with Multisensory Phonics for a year matched the brain patterns of children who were good readers. They became fluent and accurate readers.

Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knopf.



Multisensory Teaching Of Dyslexics

- Brain Imaging studies have demonstrated that with intense phonological training dyslexics can process as well as non-dyslexics, but this does not improve spelling and reading rates of dyslexics.
- Non-activation of the left insula during reading may be related to the lack of verbal efficiency in dyslexics.

Berninger, V.W., Abbot, R.D., Abbot, S.P., Graham, S, and Richards, T. (January/February, 2002). Writing and Reading: Connections Between Language by Hand and Language by Eye. Journal of Learning Disabilities. 35 (2), pp. 39-56.

The Quality of Dyslexia Science

“Moreover, in the reading area, research is converging on a comprehensive model of the most common LD – dyslexia – that is grounded in reading development theory and accounts for neurobiological and environmental factors as well as for the effects of intervention.” (p. 1)

Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

What The Dyslexia Research Shows

“This research shows that the primary academic skill deficits that lead to identification of dyslexia involve problems with the accuracy and fluency of decoding skills, and spelling. Cognitive research identifies reliable correlates and predictors of these marker variables, the most robust involving phonological awareness. Additional cognitive processes involve rapid naming of letters and digits as well as memory for phonological material. Dyslexia has reliable neurobiological correlates, with a burgeoning evidence base on the neural correlates of word recognition and dyslexia. There is also substantial research identifying specific genetic markers of dyslexia that involve several different genes. Intervention studies have shown that dyslexia can be remediated when it is identified later in development.” (p. 162)

Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

Where Can You Find Those That Teach Reading This Way?

- International Dyslexia Association

8600 La Salle Road, Suite 382

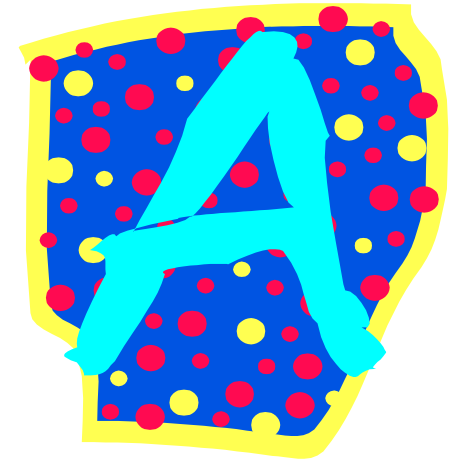
Baltimore, MD 21286-2044

Phone: 410-321-296-0232

Fax: 410-321-5069

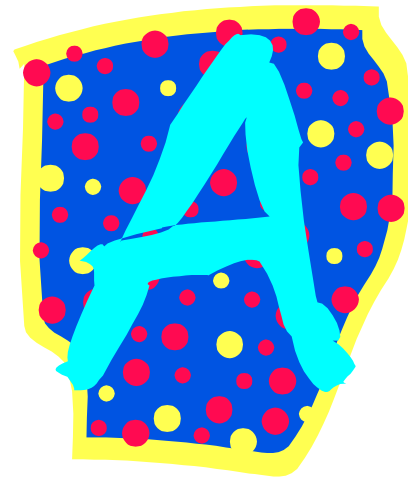
Web: www.interdys.org

E-mail: info@interdys.org



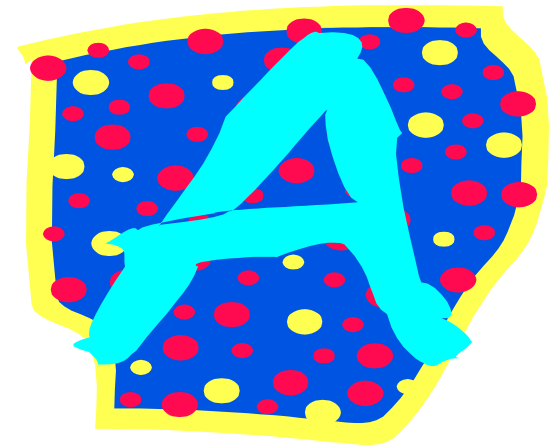
Where Can You Find Those That Teach Reading This Way?

- Learning Disabilities Association of America
4156 Library Road
Pittsburgh, PA 15234
Phone: 412-341-1515
Web: www.idanat.org



Where Can You Find Those That Teach Reading This Way?

- American Speech-Language Hearing Association
10801 Rockville Pike
Rockville, MD 20852
Voice: 800-638-8255
TTY: 301-897-0157
Fax: 301-897-7355
Web: www.asha.org



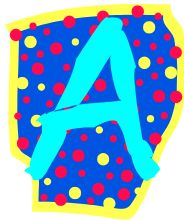
Where Can You Find Those That Teach Reading This Way?



- Vocational Educational Services in your state
- Many “world class” hospitals (i.e., Mayo Clinic, etc.) have LD clinics
- Universities with special education programs
- Private schools that specialize in teaching dyslexics (i.e., Landmark University, etc.)
- Association of Educational Therapists, 1804 West Burbank Blvd., Burbank, CA 91506; Phone: 800-286-4267; Fax: 818-843-7423; aet@aetonline.org

Where Can You Find Those That Teach Reading This Way?

- International Multisensory Structured Language Education Council (IMSLEC), Suite 346, 1118 Lancaster Drive, North East, Salem, OR 97301-2933



How to Teach Dyslexics to Read

Where to find evidenced based programs to help dyslexics learn to read:

Florida Center for Reading Research:

www.fcrr.org

Where to Find Good Curriculum Research

- Florida Center for Reading Research – www.fcrr.org
- What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education: <http://ies.ed.gov/ncee/wwc/>

Where to Find Good In Class Skills Assessment Tools

- Criterion Based Assessment (CBM)
 - National Center For Student progress Monitoring: www.studentprogress.org

Accommodations for Dyslexics



- “Fairness is giving each person what he or she needs, not giving each person the same accommodations.” (p. 19)

Jenison, M.E., Westra, M., Russell, J.H. (In Press). Do “Unreasonable” Accommodations for Postsecondary Students Provide Unfair Advantages.

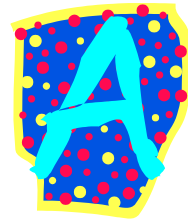
Accommodations

- “When qualified students with learning disabilities were provided accommodations, the majority of those students persisted and did well in college.” (p. 287)

Richard, M.M. (1995). Students with Attention Deficit Disorders in Postsecondary Education: Issues in Identification and Accommodations. In K.G. Naueau (Ed.), A Comprehensive Guide to Attention Deficit Disorder in Adults: Research, Diagnosis and Treatment. New York, NY: Bruner/Mazel, pp. 284-304/ Quoting: Vogel, S.A., and Adelman, P.B. (1993). Success for College Students with Learning Disabilities. New York, NY: Springer-Verlag.

Accommodations For Dyslexics

Lorry suggested the following:



- extended time for slow reading rate
- a separate room for those who subvocalize while reading
- audiotape versions of tests
- a reader
- assistance with answer sheets (i.e., a scribe)

Accommodations For Dyslexics

(Continued)



- extended breaks
- large print
- copy of verbal instructions read by the proctor

Lorry, B.J. (1998). Language Based Learning Disabilities. In M. Gordon and S. Kiesser (Eds.), Accommodations in Higher Education Under the Americans with Disabilities Act (ADA): A No-Nonsense Guide for Educators, Administrators and Lawyers. New York, NY: Guilford, pp. 103-153.

Accommodations For Dyslexics



Recording for the Blind &
Dyslexic

20 Roszel Road

Princeton, NJ 08540

866-RFBD-585

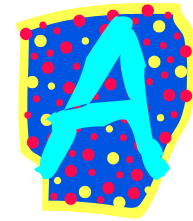
Voice: 800-221-4792

Website: www.rfbd.org

Accommodations for Dyslexics

Books on Disk and Speech Synthesis

Variable Speech Tape Players



– See:

Bryant, B.R., Bryant, D.P., and Rieth, H.J. (2002).

The Use of Assistive Technology in Postsecondary Education. In L.C. Brinckerhoff, et.al. (Eds.), Postsecondary Education and Transition for Students with Learning Disabilities, Second Edition. Austin, TX: ProED, pp. 389-429.

Accommodations For Dyslexics

- Quicktionary Reading Pen II
WIZCOM Technologies, Inc.
257 Great Road
Acton, MA 01720
Voice: 978-635-5357
Fax: 978-929-9228
Web: www.wizcomtech.com



Dyslexia & Spelling are Related

- **Spelling is also related to dyslexia**
- **Spelling is the ability to encode words**

Fletcher, J.M., Lyon, G.R., Fuchs, L.S., and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

Accommodations For Dyslexics

- Franklin Speaking Language Master Special Edition

Franklin Electronic Publishers

One Franklin Plaza

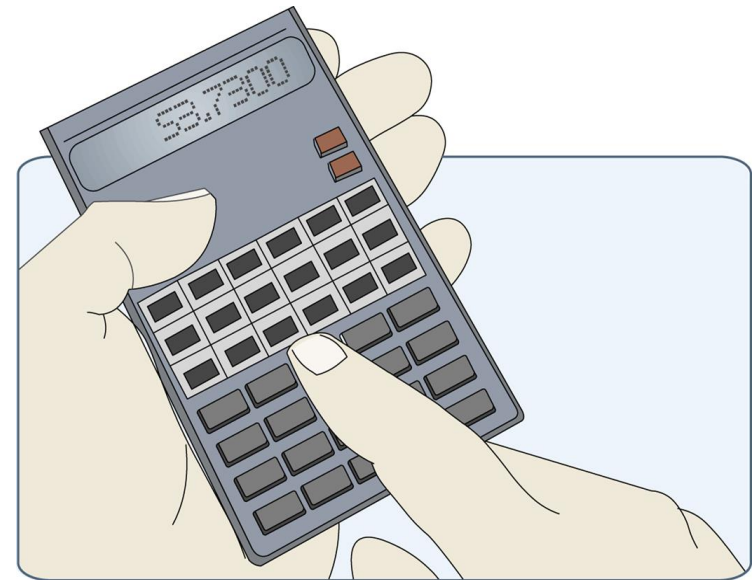
Burlington, NJ 08016-4907

Voice: 800-266-5626

Fax: 609-239-5948

E-Mail: service@franklin.com

Web: www.franklin.com



THE UNDERLINING OPTION

“The ‘Underlining Option’ provides that, when students write essay tests or reaction papers, they should use the appropriate vocabulary but may underline all words they know or suspect they have misspelled. No points are deducted. This enables the teacher to better judge the student's intellectual capability or, at least, the knowledge acquired. In addition, a whole area of writing deficiencies emerge which can then be remediated. Subsequently, students produce better quality work, allowing the instructor to assess more accurately the mastered knowledge of the student. In-class papers can be used as a basis for referral to the skill center resource staff. Requiring in-class writing on a regular basis allows the teacher to assess the student's true abilities and ensures that the student's needs are detected.”

Anderson, C.W., Jr. (1992). The Underlining Option. Reprinted from: Their World. From: <http://www.edconsultmidwest.com/articles/option.htm>

Accommodations For Dyslexics

- Kurzweil 3000 and Kurzweil KNFB Reader
Kurzweil Educational Systems, Inc.

14 Crosby Drive

Bedford, MA 01730-1402

Voice: 800-894-5374

Fax: 781-276-0650

E-Mail: info@kurzweilededu.com

Web: www.kurzweilededu.com



Accommodations for Dyslexics

- Teach student how to use Cliff and Monarch notes appropriately:
 - Thoroughly read the Cliff/Monarch notes
 - Read first and last 20 pages of the book and 20 pages toward the middle of the book
 - Take copious notes from these readings
 - Review the materials several times before the test

Accommodations For Dyslexics



“All of the studies suggested that while students with identified learning disabilities significantly benefited by the provision of extended time, students without disabilities made less dramatic gains.” (p. 7)

Jenison, M.E., Westra, M., Russell, J.H. (In Press). Do “Unreasonable” Accommodations for Postsecondary Students Provide Unfair Advantages.

Accommodations-Extended Time

“The major findings of this study were that there is a significant difference between scores obtained by students with learning disabilities and by normally achieving students under timed conditions and there are no significant differences in test performance between students with learning disabilities and normally achieving university students when the students with learning disabilities are provided extra time. Normally achieving students did not perform significantly better with extra time.” (p. 104)

Runyan, M.K. (1991). The Effects of Extra Time on Reading Comprehension Scores for University Students With and Without Learning Disabilities. Journal of Learning Disabilities, 24 (2), pp. 104-106.

Accommodations-Extended Time

- Centra researched how 79 LD students performed on the SAT in both timed and untimed administrations and found:
 - LD students averaged a 28 to 30 point increase in scores when given untimed administration.
 - This was interpreted as indicating that extended time reduces the effect of being LD.

Centra, J.A. (1986). Handicapped Student Performance on the Scholastic Aptitude Test. Journal Of Learning Disabilities, 19 (6), 324-327.

Accommodations For Dyslexics

- State education agencies governing secondary schools often have different disability qualification and documentation requirements for accommodations than do postsecondary institutions.
- Postsecondary institutions often need more information about students to provide appropriate accommodations.

Layton, C.A., Lock, R.H. (2003). Challenges in Evaluating Eligibility Criteria and Accommodation Needs for Postsecondary Students. Learning Disabilities: A Multidisciplinary Journal, 12 (1), pp. 1-5.

Accommodations for Those with Learning Disabilities

Good resources to help decide which accommodations work with each weakness:

- Brinkerhoff, L.C., McGuire, J.M., and Shaw, S. (2002). Postsecondary Education and Transition for Students with Learning Disabilities (Second Edition). Austin, TX: Pro-ED.
- Mather, N. and Jaffe, L.E. (2002). Woodcock-Johnson-III: Reports, Recommendations, and Strategies. New York, NY: John Wiley and Sons.

Accommodations-Extended Time

- Extended time is to allow the LD student time to respond.
- Time is usually extended to time and a half.
- In England students are typically given all the time they need to complete tests. There is no concept of “extended time.”

(Ofiesh, N. (November 1, 2002). Learning Disabilities and Extended Time Testing: An Everlasting Marriage. Paper presented at First Annual SALT Conference: “Demystifying Learning Disabilities (LD) and Attention Deficit Disorders (ADHD) at the Postsecondary Level, Tucson, Arizona.

Accommodations-Extended Time

- It is appropriate to use extended time when:
 - The test is designed for accuracy not speed
 - And, the student's disability impacts performance on the test.

Ofiesh, N. (November 1, 2002). Learning Disabilities and Extended Time Testing: An Everlasting Marriage. Paper presented at First Annual SALT Conference: "Demystifying Learning Disabilities (LD) and Attention Deficit Disorders (ADHD) at the Postsecondary Level, Tucson, Arizona.

Accommodations-Extended Time

- Why is extended time helpful?
 - LD students process information slower than non-LD students regardless of IQ.
 - LD can negatively impact speeded test performance, or cause a ***“functional limitation”***.
 - This would include those with reading, writing, spelling, thinking and math disabilities.

Ofiesh, N. (November 1, 2002). Learning Disabilities and Extended Time Testing: An Everlasting Marriage. Paper presented at First Annual SALT Conference: “Demystifying Learning Disabilities (LD) and Attention Deficit Disorders (ADHD) at the Postsecondary Level, Tucson, Arizona.

Accommodations-Extended Time

“These results indicate that timed testing, rather than measuring students’ with learning disabilities abilities, is measuring their inability to perform under time pressure; a condition which exacerbates the effects of their disability.” (p. 53)

Weaver, S.M. (Spring, 2000). The Efficacy of Extended Time on Tests for Postsecondary Students with Learning Disabilities. Learning Disabilities: A Multidisciplinary Journal, 10 (2), pp. 47-56.

Accommodations-Extended Time

“Students with learning disabilities also reported lower levels of concentration than their peers without learning disabilities. Students with learning disabilities exhibit difficulties with selective attention...Because decoding difficulties slow the reading process comprehension, in turn, is impaired.” (p. 53)

Weaver, S.M. (Spring, 2000). The Efficacy of Extended Time on Tests for Postsecondary Students with Learning Disabilities. Learning Disabilities: A Multidisciplinary Journal, 10 (2), pp. 47-56.

Accommodations-Extended Time

“Students with learning disabilities have been identified as being deficient in the automatization of cognitive processes necessary for rapid reading with high levels of comprehension. They also have difficulties with the storage and retrieval of information involving short and long-term memory.”
(p. 52)

Weaver, S.M. (Spring, 2000). The Efficacy of Extended Time on Tests for Postsecondary Students with Learning Disabilities. Learning Disabilities: A Multidisciplinary Journal, 10 (2), pp. 47-56.

Music and Dyslexia



- Often written music causes problems for dyslexics.
- Just as dyslexics have trouble with sound-symbol associations they can have the same difficulty with the note-musical sound connection.
- RAN can cause problems with rapid recall of music facts and names.
- They often can have problems reading words and notes simultaneously.
- Good Article: Brand, V. (Winter, 2000). Music and Dyslexia. Perspectives, 26 (1), pp. 36-37.

Disorder of Written Expression- Treatment

- Consult a Speech Language Pathologist
 - American Speech-Language Hearing Association
 - 10801 Rockville Pike
 - MD 20852
 - Voice: 800-498-2071
 - TTY: 301-897-5700
 - Fax: 301-571-0457
 - Web: Professional@asha.org



Disorder of Written Expression- Accommodation

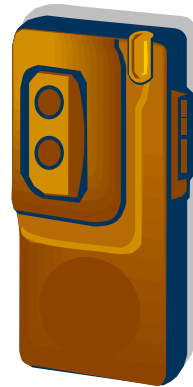
- Accommodations:
 - Oral assignments instead of written
 - Extended time
 - Reduce quantity of required work, not expected quality
 - Provide a scribe, notetaker, tape recorder, etc.
 - Teach self-advocacy skills



Mather, N. and Jaffe, E.L. (2002). Woodcock-Johnson-III: Reports, Recommendations and Strategies. New York, NY: John Willey and Sons.

Technology for the DWD Child in the Classroom

- Digital Voice Recorder with Camera
- Available from:
 - www.rcaudiovideo.com



Disorder of Written Expression- Accommodations

- Outlining and Brainstorming Programs
- Word Processing Programs
- Word Prediction Programs
- Spell Checking Programs
- Proofreading Programs
- Speech Synthesis and Screen Reading



Bryant, B.R., Bryant, D.P. and Rieth, H.J. (2002). The Use of Assistive Technology in Postsecondary Education. In L.C. Brinckerhoff, et.al. (Eds.), Postsecondary Education and Transition for Students with Learning Disabilities, Second Edition. Austin, TX: Pro ED, pp. 389-429.

Accommodations for DWE

- Voice Activated Word Processor: IBM ViaVoice-
- IBM Corporation
- 1133 Westchester Avenue
- White Plains, NY 10604
- Voice: 888-746-7426
- E-Mail: www.ews@us.ibm.com
- Web: www.ibm.com



Accommodations for DWE

- Voice Activated Word Processor: Dragon Dictate/Naturally Speaking
- ScanSoft, Inc.
- 9 Centennial Drive
- Peabody, MA 01960
- Voice: 978-977-2000
- Web: www.caere.com



Accommodations for Dyslexics and/or DWE

- Franklin Speaking Language Master Special Edition
- Franklin Electronic Publishers
- One Franklin Plaza
- Burlington, NJ 08016-4907
- Voice: 800-266-5626
- Fax: 609-239-5948
- E-Mail: service@franklin.com
- Web: www.franklin.com



Developmental Coordination Disorder-Dysgraphia and/or DWE

- Helpful Technology:
- AlphaSmart Direct, Inc.
- Renaissance Learning, Inc.
P.O Box 8036
Wisconsin Rapids, WI, USA
54495-8036
800-656-6740
715-424-4242 (fax)
- Website: <http://alphasmart.com/index.html>



Disorder of Written Expression- Accommodation

- Microsoft Encarta Reference Suite, and Research Organizer
Microsoft Corporation
- One Microsoft Way
- Redmond, WA 98052-6399
- Voice: 888-218-5617
- Web:



www.encarta.msn.com/products/info/resuite.asp

Mather, N. and Jaffe, E.L. (2002). Woodcock-Johnson-III: Reports, Recommendations and Strategies. New York, NY: John Wiley and Sons.

DWD and Curriculum

“The intervention studies in handwriting and spelling demonstrate how systematic, explicit instruction can effect better outcomes for students with LDs on skills that are foundational to written expression. Results also suggest how work targeting these foundational skills may simultaneously enhance related skills, such as word attack and word recognition, as well as higher-order processes related to composition. There was clear evidence of transfer to reading and composing in many studies focusing on the transcription component.” (p. 258)

Fletcher, J.M., Lyon, G.R., Fuchs, L.S. and Barnes, M.A. (2007). Learning Disabilities: From Identification to Intervention. New York, NY: Guilford.

HELPFUL BOOKS FOR PROFESSIONALS AND LOVED ONES



HELPFUL BOOKS FOR PROFESSIONALS AND LOVED ONES

- Mather, N., and Goldstein, S. (2001). Learning Disabilities and Challenging Behaviors. Baltimore, MD: Brookes.
 - Reid, G. & Fawcett, A. (2004). Dyslexia in Context. Philadelphia, PA: Whurr
 - ***Nosek, K. (1997). Dyslexia in Adults. Dallas, TX: Taylor.***
 - Bartlett, D. & Moody, S. (2000). Dyslexia in the Workplace. Philadelphia, PA: Whurr.
 - Goldstein, S. (1997). Managing Attention and Learning Disorders in Late Adolescence & Adulthood. New York, NY: John Wiley & Sons.
 - ***Silver, L.B. (2006). The Misunderstood Child, 4th Edition. New York, NY: Crown.***
- *BOOKS IN THIS FONT ARE GOOD FOR THE LAYPERSON***

HELPFUL BOOKS FOR PROFESSIONALS AND LOVED ONES

- ***Richards, R.G. (1999). The Source for Dyslexia and Dysgraphia. East Moline, IL: LinguSystems.***
- ***Roffman, A.L. (2000). Meeting the Challenge of Learning Disabilities in Adulthood. Baltimore, MD: Brookes.***
- Wren, C. & Einhorn, J. (2000). Hanging by a Twig: Understanding and Counseling Adults with Learning Disabilities. New York, NY: Norton.
- ***Rodis, P., Garrod, A., & Boscardin, M.L. (2001). Learning Disabilities & Life Stories. Boston, MA: Allyn and Bacon.***
- ***Shaywitz, S. (2003). Overcoming Dyslexia. New York, NY: Knopf.***

****BOOKS IN THIS FONT ARE GOOD FOR THE LAYPERSON***

Helpful Organizations

- Learning Disabilities Association (LDA): www.lda.org
- International Dyslexia Association (IDA): www.interdys.org
- Children and Adults with Attention Deficit Disorders (CHADD): www.chadd.org
- National Attention Deficit Disorder Association (ADDA): www.add.org

Helpful Organizations

- Nonverbal Learning Disabilities Association (NLDA): www.nlada@nlada.org
- MAAP Services for Autism and Asperger's Disorder: www.maapservices.org
- ADD WareHouse: www.addwarehouse.com
- LinguSystems: www.linguisystems.com

ATTENTION- DEFICIT/HYPERACTIVITY DISORDERS

**Hillcrest Educational Center
Pittsfield, MA
December 2, 2008**

Presented by: Kevin T. Blake, Ph.D., P.L.C.
Tucson, Arizona

What does “Neurobiological” mean?

- Stephen Pinker – “The Blank Slate: The Modern Denial of Human Nature,” or better stated, “the Lie of the Blank Slate.”

Pinker, S. (2002). The Blank Slate: The Modern Denial of Human Nature. New York, NY: Viking.

- AD/HD is not caused by child rearing practices or environmental experience.

Barkley, R.A. (2002A, Tape 1). ADHD Symposium: Nature, Diagnosis, and Assessment: Comorbidity and Developmental Course of ADHD. University of Massachusetts, January, Distributed by Stonebridge Seminars, Westborough, MA 01581.

What does “Neurobiological” mean?



80 to 85% of the cases of AD/HD are genetic in origin. I.Q. is 60 to 65% genetic.

Barkley, R.A. (2002A, Tape 1). ADHD Symposium: Nature, Diagnosis, and Assessment: Comorbidity and Developmental Course of ADHD. University of Massachusetts, January, Distributed by Stonebridge Seminars, Westborough, MA 01581.

What does **Neurobiological** mean?

1. Damage to different neural networks may cause AD/HD symptoms.
2. Differences in Brain Development may cause them, too (More Common).
3. AD/HD, "...is a condition of the brain produced by genes."

Swanson, J. and Castellanos, X. (1998). Biological Basis of Attention Deficit Hyperactivity Disorder: Neuroanatomy, Genetics, and Pathophysiology. Available from-
<http://addbalance.com/add/nih/19981118c.htm>.

Biederman, J. (October 27, 2006). Advances in the Neurobiology of AD/HD. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL.

AD/HD is a Multi-etiological Disorder

- Genetic 80%
- Environmental <20%
- Brain insult <20%
- Chemical exposure <20%
- 20% “Acquired AD/HD”; mostly male



Biederman, J. (October 27, 2006). Advances in The Neurobiology of AD/HD. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL.

Barkley, R.A. (October 27, 2006). Research Symposium I: A Decade of Research: What We Know About AD/HD. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL.

Attention-Deficit/Hyperactivity Disorder, Combined Type

“A condition marked by diminished capacity for rule governed behavior, decreased response to reward, decreased sensitivity to reinforcement and a faster rate of extinction/satiation of behavior. ADHD individuals have less capacity to delay their response to environmental stimuli than do their peers. Their condition is marked by considerable variability in their performance.”
(Barkley, 1990)

Barkley, R.A. (1990). Attention Deficit Hyperactivity Disorder. New York, NY: Guilford.

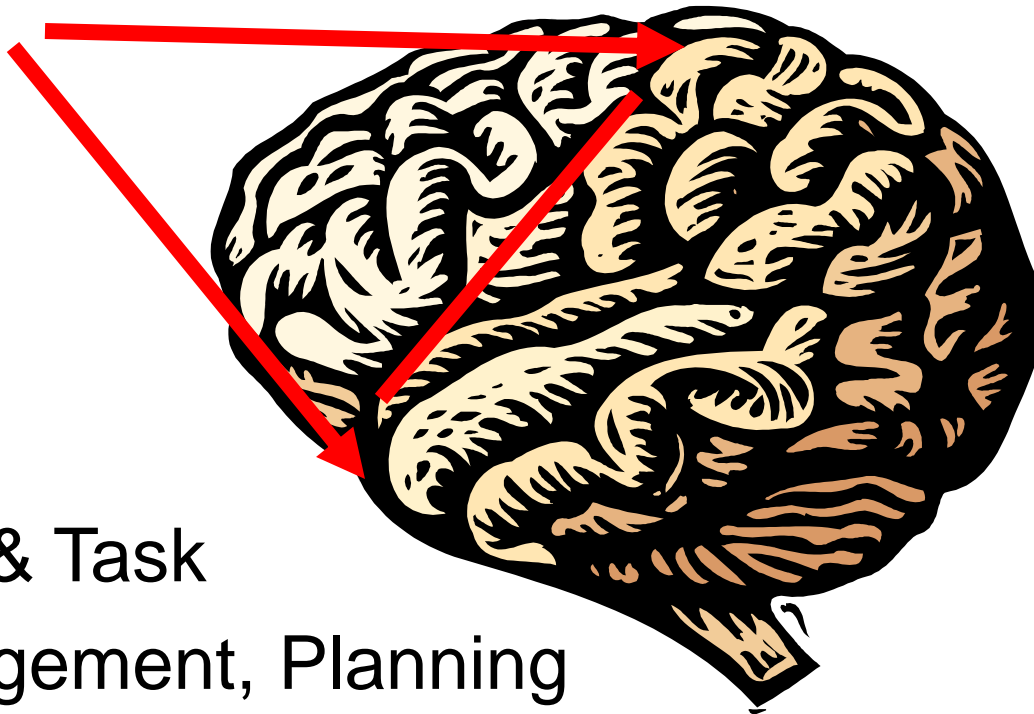
What are Executive Functions?

Primarily frontal lobe abilities, “...in areas such as organization, future planning, and project completion.” (Conners and Jett, 1999, p.19)

Conners, C.K., and Jett, J.L (1999). Attention Deficit Hyperactivity Disorder (in Adults and Children): The Latest Treatment Strategies. Kansas City, MO: Compact Clinicals.

AD/HD and Executive Functions

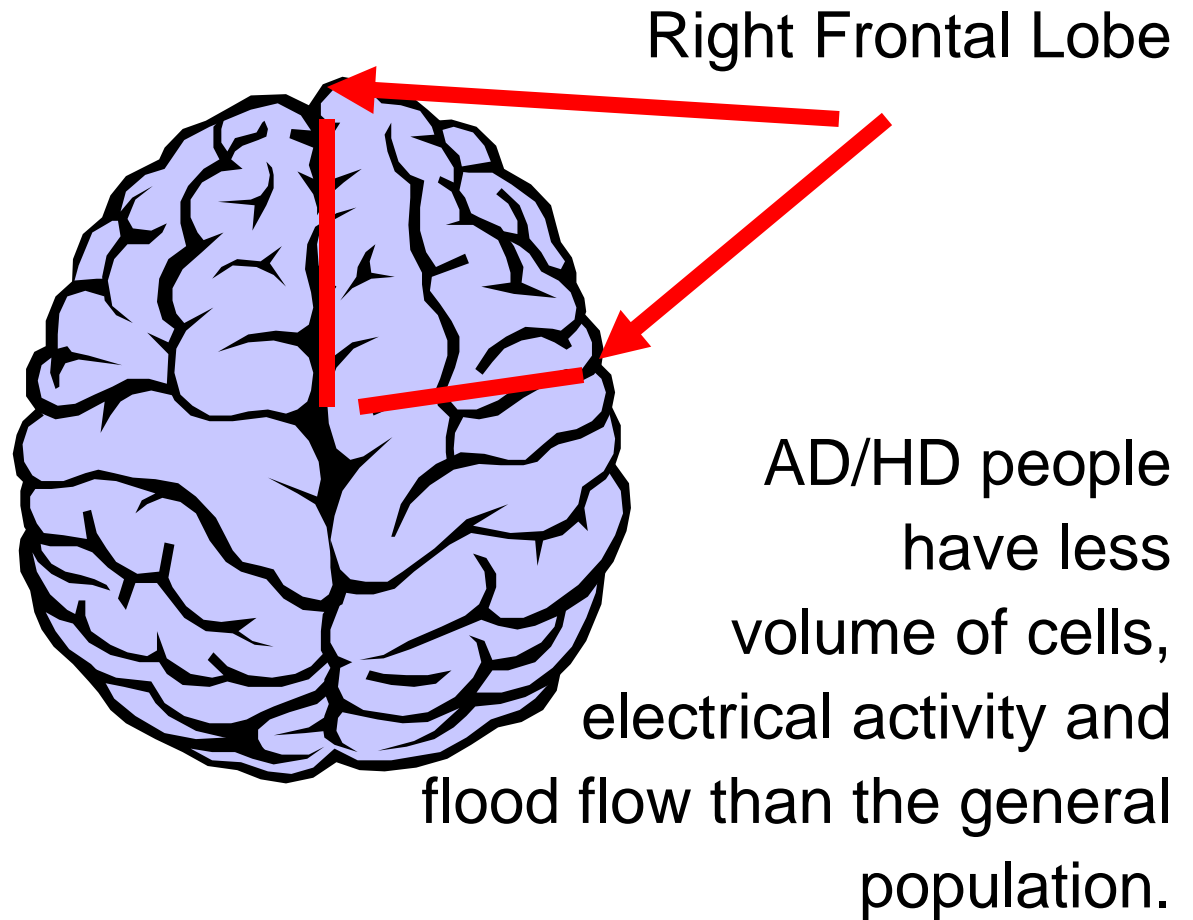
- Frontal Lobe



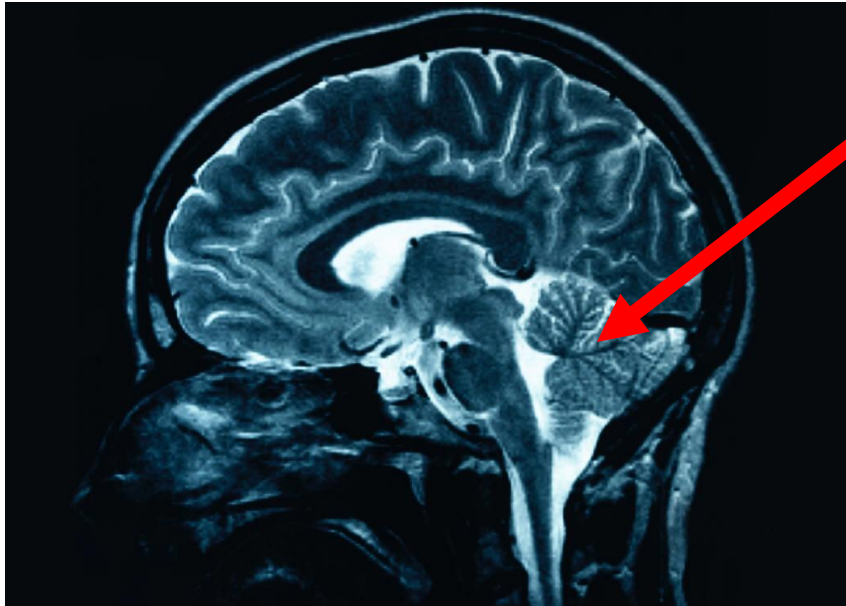
- Time & Task
Management, Planning
& Organization

The Brain and AD/HD

Barkley, R.A. (2006). Attention-Deficit/Hyperactivity Disorder, Third Edition. New York, NY: Guilford.



The Brain and AD/HD



- People with AD/HD have smaller Cerebellar Vernises than the norm, particularly on the right side.

Barkley, R.A. (2006). Attention-Deficit/Hyperactivity Disorder, Third Edition. New York, NY: Guilford.

European Perspectives of AD/HD

Disorder of Attention Motor Control and Perception (DAMP):

Swedish researchers have been doing longitudinal research since 1977 with a group of children with AD/HD and Developmental Coordination Disorder which they view as one disorder called DAMP. At age 22 30% of the children still met criteria for AD/HD and DCD.

(Gillberg, C. (2001). ADHD with Comorbid Developmental Coordination Disorder: Long-Term Outcome in a Community Sample, ADHD Report, 9 (2), pp. 5-9)

(Gillberg, C., and Kadesjo, B. (2000). Attention-Deficit/Hyperactivity Disorder and Developmental Coordination Disorder. In T.E. Brown (Ed.), Attention-Deficit Disorders and Comorbidities in Children, Adolescents and Adults. Washington, DC: American Psychiatric Press, pp. 393-406.)

The Neurology of the Combined Type of AD/HD

Barkley (2002B) stated there are three areas of the brain that are significantly different in those who are AD/HD:

1. The ***Orbital Prefrontal Cortex-Primarily the Right Side***
2. The ***Cerebellar Vermis-Primarily the Right Side***
3. The ***Basal Ganglia-Striatum and Globus Pallidus***

Barkley, R.A. (2002B). ADHD and Oppositional Defiant Children. Seminar presented February 19-20, Phoenix, AZ.

1990 NIH PET Study

Adults with AD/HD Metabolize 10% **LESS** Glucose than non-AD/HD Adults Over Their Entire Brains.

Zametkin, A.J., et. al. (1990). Cerebral Metabolism in Adults with Hyperactivity of Childhood Onset. New England Journal of Medicine. 323, pp.1361-1366.

Definitive Work On the Causes of AD/HD

Nigg, J.T. (2006). What Causes ADHD?
Understanding What Goes Wrong and
Why. New York, NY: Guilford.

http://www.guilford.com/cgi-bin/cartscript.cgi?page=pr/nigg.htm&dir=pp/adhdr&cart_id=722334.1350



Gender Ratio of Combined Type AD/HD

- In childhood & adolescence males have 3 times more AD/HD than females.

Barkley, R.A. (1995). ADHD In Children, Adolescents, and Adults: Diagnosis, Treatment, and Assessment. New England Educational Institute, Cape Cod Symposia, New England Educational Institute (August), Pittsfield, MA.

- That ratio appears to change to 1 to 2 in adulthood in favor of males.

Anonymous (November, 2002). Attention Deficit Disorder in Adults. Harvard Mental Health Letter, 19 (5), 3-6.

- Combined Type AD/HD may not be identified as readily in females.

Quinn, P., and Nadeau, K. (2002). Revisiting DSM-IV: Developing Gender Diagnostic Criteria, In P. O. Quinn, and K.G. Nadeau (Eds). Gender Issues and AD/HD: Research, Diagnosis and Treatment. Silver Springs, MD: Advantage.

DSM-IV, TR

- Attention-Deficit/Hyperactivity Disorder, Predominately Hyperactive Impulsive Type
- Attention-Deficit/Hyperactivity Disorder, Predominately Inattentive Type
- Attention-Deficit/ Hyperactivity Disorder, Combined Type
- Attention-Deficit/Hyperactivity Disorder, Not Otherwise Specified

Author (2000). Diagnostic and Statistical Manual, Fourth Edition-Text Revision.
Washington, D.C.: American Psychiatric Association.

DSM-V (2012)

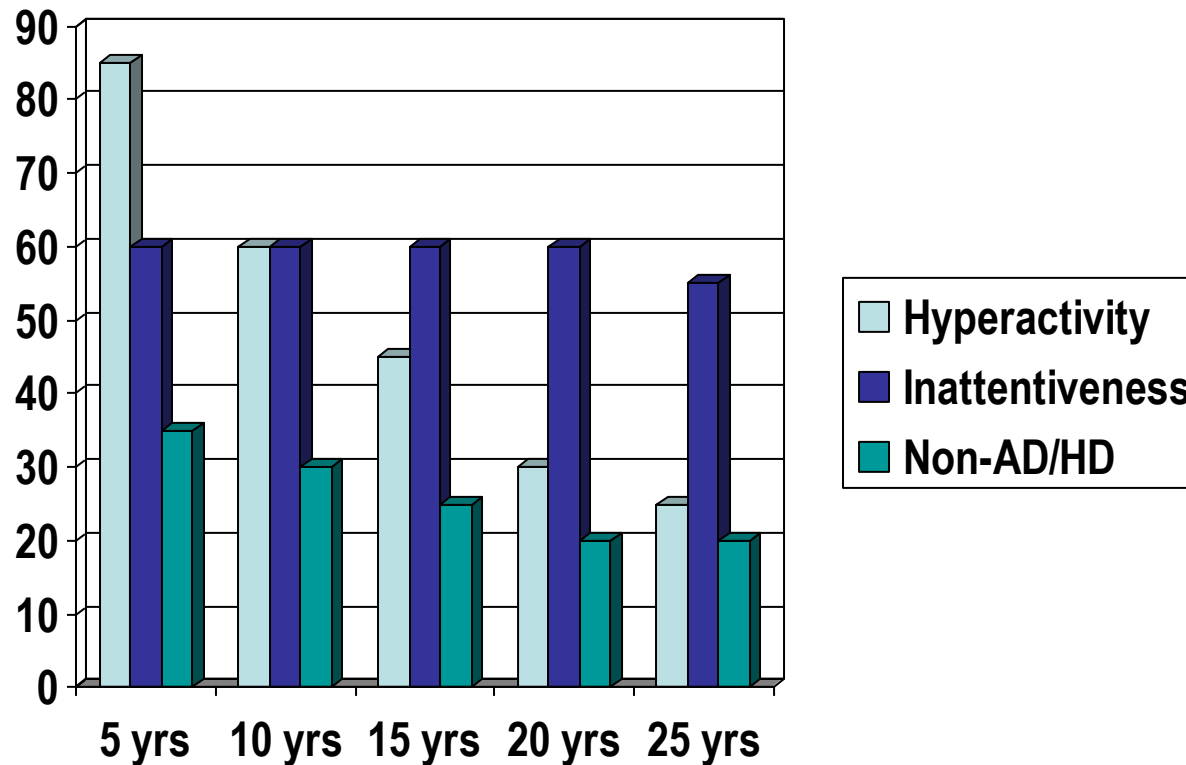
- Attention-Deficit/Hyperactivity Disorder, Predominately Hyperactive Impulsive Type



- Attention-Deficit/Hyperactivity Disorder, Combined Type
 - They are developmentally, genetically and neurophysiologically the same disorders. They are also treated with the same medications; typically, stimulants.

Barkley, R.A. (2002B). ADHD and Oppositional Defiant Children. Seminar presented, February 19-20, Phoenix, AZ., The Institute for Continuing Education, Fairhope, AL.

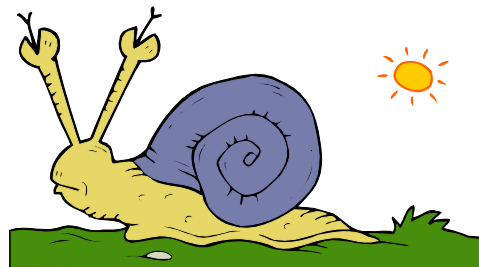
Hyperactive/Impulsive AD/HD and Combined Type AD/HD are the Same Disorders?



Crossovers

Barkley wrote when the Combined Type changes to the Inattentive Type by adolescence or adulthood then the person should be thought of as having the Combined Type.

Barkley, R.A. (2002B). ADHD and Oppositional Defiant Children. Seminar presented, February 19-20, Phoenix, AZ., The Institute for Continuing Education, Fairhope, AL.



DSM-V (2012)

- **Attention-Deficit/Hyperactivity Disorder, Combined Type**
- Attention-Deficit/Hyperactivity Disorder, Inattentive Type
- Attention-Deficit/Hyperactivity Disorder, Not Otherwise Specified

Barkley's 30% Rule for Combined AD/HD

People with Combined Type AD/HD tend to be on average 30% less mature in controlling their hyperactivity, impulsivity, and inattentiveness than their non-disabled age peers.

Barkley, R.A. (1998). ADHD in Children, Adolescents and Adults: Diagnosis, Assessment and Treatment. New England Educational Institute, Cape Cod Symposium (August), Pittsfield, MA.

Warning for Driver's Education Instructors with AD/HD Combined Types Students!

- The average 16 year old with Combined Type AD/HD functions like an 11 year old when it comes to controlling their hyperactivity, impulsivity and inattentiveness.
- How many of you would want an 11 year old behind the wheel of a car?



Barkley, R.A., Murphy, K.R., Fischer, M. (2008). ADHD In Adults: What The Science Says. New York, NY: Guilford.

Warning for Driver's Education Instructors with AD/HD Combined Types Students!

- AD/HD teens are more likely to have driven a car illegally before they have their drivers license.
- They are less likely to be employing good driving habits.
- They will incur many more traffic citations, especially for speeding.
- They are four times more likely to be in an accident.
- They will have even more problems if they have Oppositional Defiant Disorder and/or Conduct Disorder with their AD/HD.
- Unmedicated people with AD/HD who are sober handle a car as well as a person who is not AD/HD who is legally drunk!

Barkley, R.A. (2006). Attention Deficit Hyperactivity Disorder, Third Edition. New York, NY, Guilford.

Warning: Driving and AD/HD



“Fortunately, the driving performance of adults with ADHD has been shown to improve with medication management, at least those aspects of poor driving likely to derive from ADHD itself.” (p. 376)

Barkley, R.A., Murphy, K.R., Fischer, M. (2008). ADHD In Adults: What The Science Says. New York, NY: Guilford.



Warning for Health Class Instructors!



- People with AD/HD may have a **significantly reduced life expectancy** due to an impulsive lack of concern for health related issues, exercise, diet, drugs, etc.

Barkley, R.A. (1998). Attention-Deficit Hyperactivity Disorder, Second Edition. New York, NY: Guilford.

- Spend significantly more time with them emphasizing the importance of good health and developing ways to insure they follow through with annual check-ups, etc.

Barkley's 30% Rule for Combined Type AD/HD

People with AD/HD are “Blind to Time”.
They have No sense of the passage of time. There are two categories of time to a person with AD/HD; now and not now and not now is not important. They are “slaves to the present” and have no foresight.

Barkley, R.A. (1998). ADHD in Children, Adolescents and Adults: Diagnosis, Assessment and Treatment. New England Educational Institute, Cape Cod Symposium (August), Pittsfield, MA.

“Augh! That Doctor is Asking Me to Complete Questionnaires about that ADD Kid in My Class Again!”

- These questionnaires are supported by 40 years of scientific research into the diagnosis and treatment of AD/HD. They offer invaluable data to help the doctor establish the diagnosis and whether the treatment (i.e., medication) is working. If you do not complete them you can be endangering the child's health!

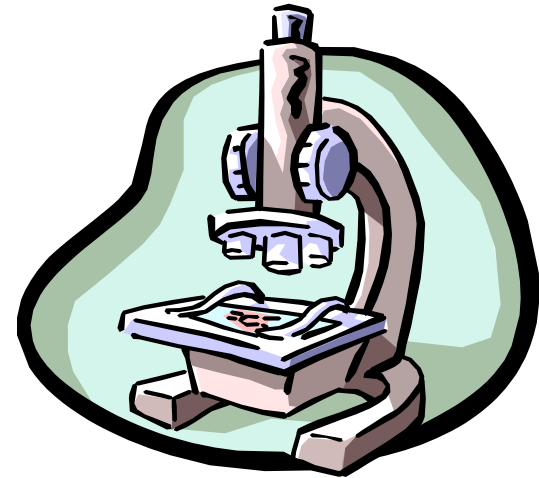
Working Memory and AD/HD



- “AD/HD kids are not ‘clueless’. They’re ‘cueless’.”

Goldstein, S. (November 20, 1998). Pathways to Success: Evening the Odds in the Treatment of Attention-Deficit Hyperactivity Disorder. Seminar presented in Tucson, AZ.

Summary of Barkley's Theory



Step 1: *Response Delay*

Step 2: *Prolongation*

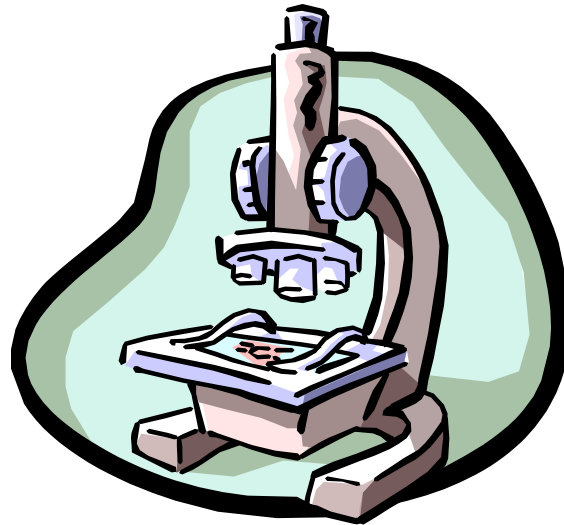
Step 3: *Rule Governed Behavior*

Step 4: *Dismemberment of the Environment*

Barkley, R.A. (1997). ADHD and the Nature of Self-Control. New York, NY: Guilford.

Brown's Theory Summarized

- 1. *ACTIVATION***
- 2. *FOCUS***
- 3. *EFFORT***
- 4. *EMOTION***
- 5. *MEMORY***
- 6. *ACTION***



Brown, T.E. (2002). Social Ineptness & “Emotional Intelligence” in ADHD.
Paper Presented at the 14th Annual CHADD International Conference,
Miami Beach, FL October 17-19.

DSM-V (2012)

- Attention-Deficit/Hyperactivity Disorder, Combined Type
- **Attention-Deficit/Hyperactivity Disorder, Inattentive Type**
- Attention-Deficit/Hyperactivity Disorder, Not Otherwise Specified

Attention-Deficit/Hyperactivity Disorder, Predominately Inattentive Type

- It is a separate and distinct disorder from the Combined Type

Milich, R., Balentine, M.A. and Lynam, D.R. (2002). The Predominately Inattentive Subtype- Not a Subtype of ADHD. ADHD Report, 10 (1), p. 1-6.

- Most likely in DSM-V the Combined Type will be in the Disruptive Behavior Disorders Section. The Inattentive Type will be elsewhere. It is different neurologically, genetically and symptomatically from Combined Type AD/HD.

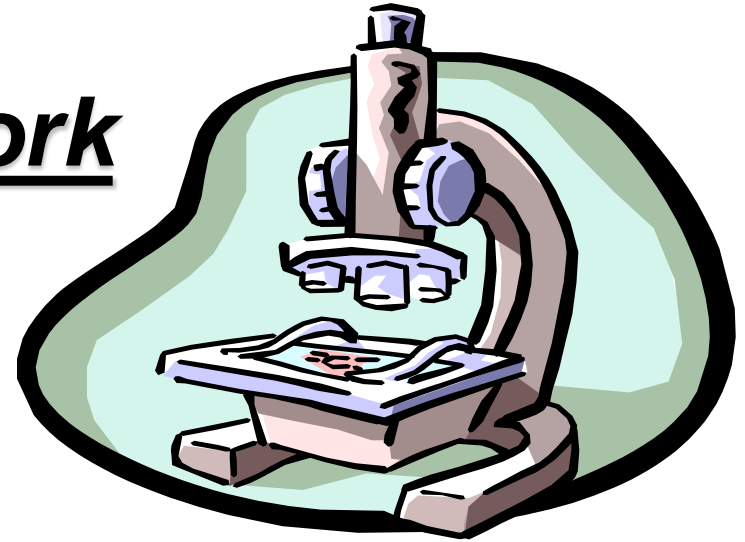
Barkley, R.A. (2002A, Tape 1). ADHD Symposium: Nature, Diagnosis, and Assessment: Comorbidity and Developmental Course of ADHD. University of Massachusetts, January, Distributed by Stonebridge Seminars, Westborough, MA 01581.

Medications and AD/HD

- About 92% of those with Combined Type AD/HD respond to Stimulant Medication when taken through titration trials by a physician.
- Only about 20% of those with Inattentive Type AD/HD respond to Stimulant Medication.

Barkley, R.A. (2002). Mental and Medical Health Issues of AD/HD. Pre-Conference Institute, #TPA1, Thursday, October 17, 2002, 14th Annual CHADD International Conference, Miami Beach, FL.

Your Tax Dollars at Work

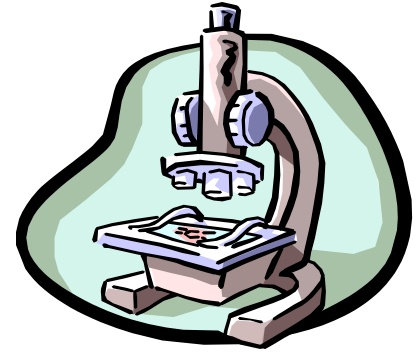


The Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder

(MTA Study = Multimodal Treatment Assessment of AD/HD)

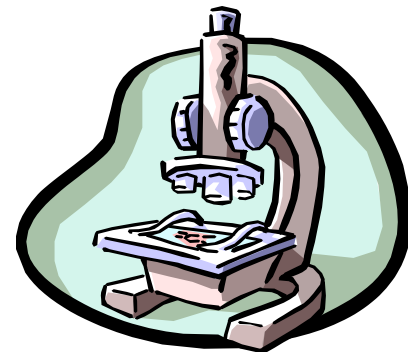
1999

The MTA Study



- Mid-1990s
- 579 AD/HD, Combined Type Children
- Demographics matched the 1990 US Census
- Randomly assigned to one of four groups
- After assigned to group each child was totally reassessed to make sure the were AD/HD, CT

The MTA Study



- Group 1: “Experimental Medication”
 - Three medications used
 - Methylphenidate (Ritalin)
 - D Amphetamine (Dexidrene)
 - Pemoline (Cylert)**
 - If medication one did not work or there was a side effect went on to the next medication and so on.
 - Each month parent and child was seen by physician. Child checked for response to treatment and side effects. Each month questionnaires given to parents and teachers.

Warning: Stimulants & AD/HD

- “The FDA’s review of sudden death or cardiovascular incidents in patients taking AD/HD medications found 25 reports of death between 1999 and 2005 and 54 reports of serious cardiovascular problems. Some of these patients had pre-existing heart conditions or hypertension, the report noted.”

Goodman, B. (2/23/2006). FDA Warning on AD/HD Medications “Premature”; National AD/HD Advocacy group Urges Further Research. From Website:
www.chadd.org/whatsnew/FDAHearings.htm

Warning: Stimulants & AD/HD

- According to the Center for Disease Control (CDC) about 2,500,000 children between 4 and 17 take AD/HD medications.
- “According to the Surgeon General, medication is effective for about 80 percent of the people who have the disorder” (sic. AD/HD).

Goodman, B. (2/23/2006). FDA Warning on AD/HD Medications “Premature”; National AD/HD Advocacy group Urges Further Research. From Website:

www.chadd.org/whatsnew/FDAHearings.htm

Warning: Strattera and AD/HD

- PDR Warning about liver problems. Two people have had liver function problems who have been placed on this medication.

Surman, C. (May 12, 2005). AD/HD and Comorbidity. Paper presented at the National Attention Deficit Disorder Association Annual Conference May 12-15, 2005, Tucson, AZ.

Warning: Cylert & AD/HD

- Cylert (Pemoline) has a low abuse potential, but may cause liver toxicity. Must check liver enzymes every two weeks.
- It now has a PDR Black Box Warning.

(Prince, J., and Wilens, T. (2002). Medications Used in the Treatment of AD/HD in Women. In P.O. Quinn, and K.G. Nadeau (Eds.), Gender Issues and AD/HD. Silver Spring, MD: Advantage, pp. 144-182.)

(Hallowell, E.M., and Ratey, J.J. (2005). Delivered From Distraction. New York, NY: Ballantine, pp. 251.)

POPULATIONS

- World's projected population as of 01/01/07:

6,605,046,992 X 5 (Years)

- US Population as of 12/06/06:

300,351,641 X 1 (Year)

From US Census Bureau World Population Clock Projections:

www.census.gov/main/www/popclockworld.html and
www.census.gov/ipc/popclockworld.html



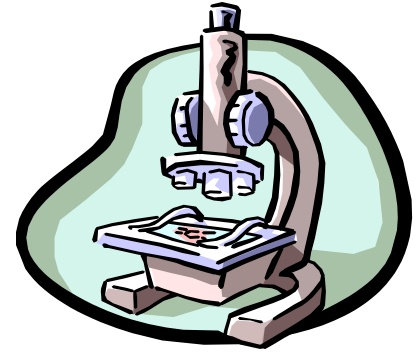
“My daughter died after taking aspirin.”

- “Health experts have issued a warning that children under the age of 19 should not take aspirin because the risk of a rare but potentially fatal condition called Reye’s Syndrome”
- Each year there are an estimated 7600 deaths and 76,000 hospitalizations from taking non-steroidal anti-inflammatory drugs (NSAID). What is a NSAID? Aspirin!

BBC News World Edition (10/23/2002). “My Daughter Died After Taking Aspirin”. From website: www.newsbbc.uk/2/hi/health/2353187.stm

From website: www.drugwarfacts.org/causes.htm#nsaid

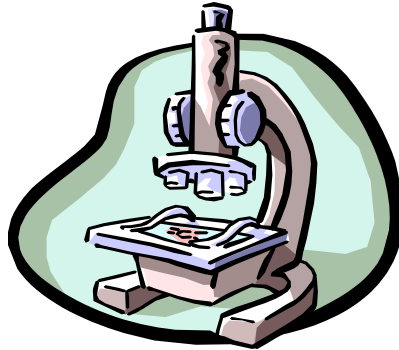
The MTA Study



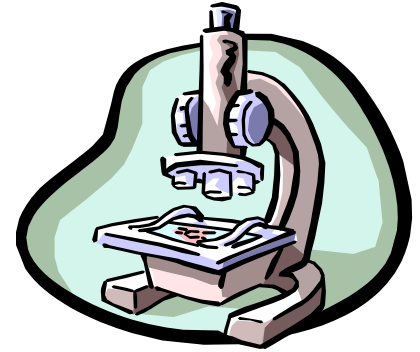
- Group 2: Behavior Modification
 - Each child received 1 hour per week individual counseling, 1 ½ hours group counseling 2 hours 5 days a week tutoring, parents taught how to use token economies at home and daily report cards, teachers taught how to teach AD/HD child, how to use token economies in the classroom, and daily report cards, parents and teachers given “800” number for consultation 24/7, went on for 14 months!

The MTA Study

- Group 3: “Experimental Medication Plus Behavior Modification Group”



The MTA Study



- Group 4: “Community Services”
 - The parents are told their child has Combined Type AD/HD and they are encouraged to go out to their community and get what services they want for their child...This was the “Control Group”.
 - Medication, aroma therapy, etc.

MTA Study

- Medication Management Treatment Group did best. 50% decline in symptoms.
- Medication with Behavioral Modification Group did no better.
- Behavior Modification Group did better than placebo.
- Community Treatment only had 25% decline in symptoms.
- Medication helps with social interaction.

NIMH Research Treatment for Attention Deficit Hyperactivity Disorder (ADHD): The Multimodal Treatment Study – Questions and Answers. From website:

www.nimh.nih.gov/chilfhp/mt.aqu.cfm

MTA Study

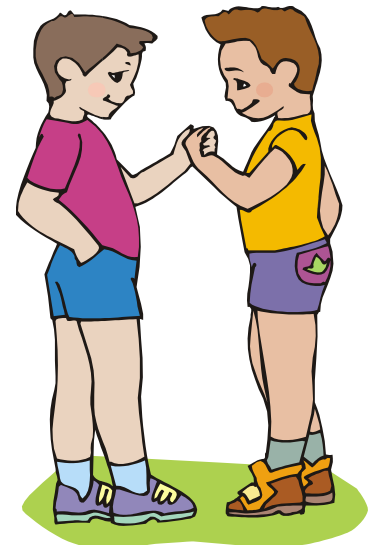
- “Based on these findings, we concluded that for AD/HD symptoms, a closely monitored medication approach of the MTA was superior to behavioral treatment alone and routine community treatment that included medication. Combined treatment offered slightly greater benefits than medication management alone for AD/HD symptom reduction as well as for other domains, such as peer relations, parent-child relations and academic outcomes” (p. 64).
- Combined group used 20% less medication than Medication only group.
- 24-month follow-up same basic results.

Jensen, P.S., Abikoff, H.B., Arnold, L.E., Epstein, J., Greehill, L.L., Hechtman, L., Hinshaw, S.P., March, J.S., Newcorn, J.H., Swanson, J.M., Vitello, B., Wells, K., and Wigal, T. (2006-2007). A 24-Month Follow-up to the NIMH MTA Study. The New CHADD Information and Resource Guide to AD/HD. Landover, MD: CHADD, pp. 64-67.

Medication and Social Interaction

- “The medications used to treat AD/HD often have positive social effects; in fact most children feel an improvement in the way they relate to others” (Aull, April, 2005, p. 36).

Aull, E.B. (April, 2005). Social Skills Improvement with AD/HD Medication. Attention!, 12 (2), pp. 34-37.

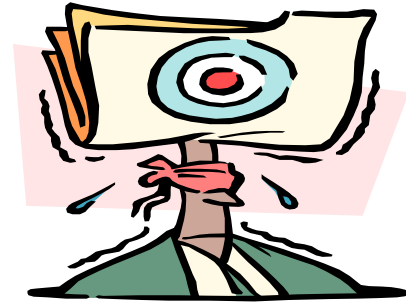


AD/HD and Medication

- “When the discussion is specifically reserved to symptom relief and impairment reduction for ADHD, this series of articles adds to an impressive body of scientific literature demonstrating that medication treatment, in the case of methylphenidate, is cost efficient and may be all that is needed for good responders” (p. 3).

Goldstein, S. (December, 2004). Do Children with ADHD Benefit from Psychosocial Intervention, ADHD Report, 12 (6), 1-3.

Facial Expression and Social Ability



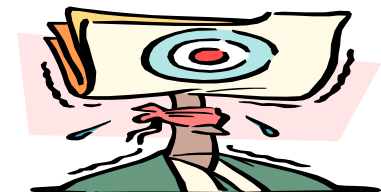
- Regarding facial expressions in children and adults with AD/HD Kuhle, Hoch, Rautzenberg, and Jansen (2001) concluded, “Altogether, ... the facial expressions, are uncontrolled and jerky and are often wrongly dimensioned in time and space” (p. 6).

Kuhle, H.J., Hoch, C., Rautzenberg, P., and Jansen, F. (2001). Short-Term Video-Based Observation of Behavior with Special Reference to Eye-Contact, Facial Expression and Motor Activity in Diagnosis and Therapy of Attention Deficiency/ Hyperactivity Syndrome (ADHS). (First Published in): Praxis der Kinderpsychologie und Kinderpsychiatrie 50: 607-621. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14th Annual CHADD International Conference, Miami Beach, FL.

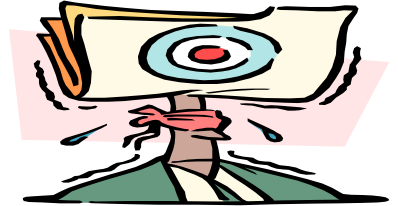
Facial Expressions and AD/HD

- AD/HD childrens' eyes drift away from those they are in conversation with.
- This usually interrupts in the flow and their comprehension of the conversation.
- Often parents feel rejected by AD/HD children when they do this.

Kuehle, H.J., Hoch, C, and Jansen, F. (2002). Video Assisted Observation of Visual Attention, Facial Expression of the Individual Stimulant Dosage and Motor Behavior for the Diagnosis and for the Determination in Children with AD/HD. Obtained from: Kuehle, H. (October 17, 2002). Video Assissted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14th Annual CHADD International Conference, Miami Beach, FL.



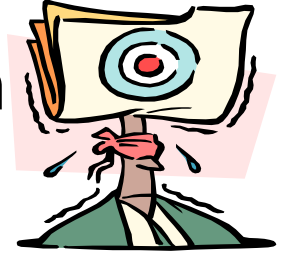
Facial Expressions and AD/HD



- AD/HD children smile abruptly.
- There is little or no transition between emotional states.
- Sometimes their facial expression bleeds over into the next emotional state.
- Expression of emotion often appears exaggerated. The quality of expression can be limited due to this.
- Even body movements are jerky and uncontrolled.

Kuehle, H.J., Hoch, C, and Jansen, F. (2002). Video Assisted Observation of Visual Attention, Facial Expression of the Individual Stimulant Dosage and Motor Behavior for the Diagnosis and for the Determination in Children with AD/HD. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14th Annual CHADD International Conference, Miami Beach, FL.

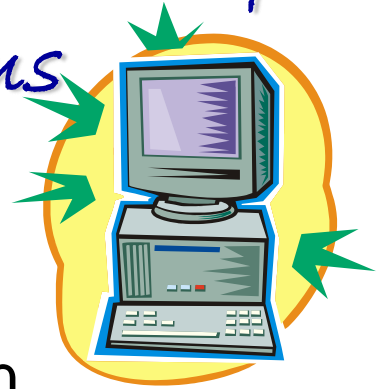
Possible Treatment of Problems with Facial Expression and AD/HD



- Optimal dosing of a stimulant medication causes a significant reduction in visual attention loss.
- Facial expressions will become smooth and variable.
- Too high a dose can cause a return of the symptoms.
- Can properly ID 80% of the AD/HD children with video procedure.

Kuhle, H.J., Hoch, C., Rautzenberg, P., and Jansen, F. (2001). Short-Term Video-Based Observation of Behavior with Special Reference to Eye-Contact, Facial Expression and Motor Activity in Diagnosis and Therapy of Attention Deficiency/ Hyperactivity Syndrome (ADHS). (First Published in): Praxis der Kinderpsychologie und Kinderpsychiatrie 50: 607-621. Obtained from: Kuehle, H. (October 17, 2002). Video Assisted Observation of Visual Attention and Motor Behavior for the Diagnosis and Determination of the Individual Stimulant Dosage in Children with AD/HD. Research Poster Session, 14th Annual CHADD International Conference, Miami Beach, FL.

Possible Alternative Medicine Treatment for Working Memory Problems



- Working Memory Training:
 - Torkel Klingberg, M.D., Ph.D.
 - Karolinska Institute- Stockholm, Sweden
 - CogMed software company (RM Program)
 - AD/HD deficient in visual spatial working memory. Gets worse with age.
 - **MAY** help relieve executive functioning difficulties and reading comprehension in Combined Type AD/HD.
 - **More Research is needed!**

Klingberg, T. (February, 2006). Training Working Memory. AD/HD Report, 14 (1), pp. 6-8.

Barkley, R. (February, 2006). Editorial Commentary Issues in Working Memory Training in ADHD. ADHD Report, 14 (1), pp. 9-11.

Ingersoll, B. (October 26, 2006). Complementary Treatments for AD/HD. Paper Presented at the 18th Annual CHADD International Conference, Chicago, IL.

Klingberg, T. and Andersson, M. (October 28, 2006). Computerized Training of Working Memory in Children with AD/HD. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL.

Possible Alternative Medicine Treatment for Combined Type AD/HD



- www.cogmed.com
- Klingberg, T., Fernell, E., Olesen, P.J., Gustafsson, P., Dalstrom, K., Gillberg, C., Fossberg, H., Westerberg, H. (2005). Computerized Training of Working Memory In Children With ADHD – A Randomized, Controlled Trial. Journal of The American Academy of Child and Adolescent Psychiatry, 44 , 177-186.
- Gibson, B.S. Seroczynski, A., Gondoli, D.M. Braungart-Rieker, J. and Grundy, A.M. (In Press). Working Memory Training for Early Adolescents with Attention-Deficit Hyperactivity Disorders. Study conducted at the University of Notre Dame.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Teach them how to ask questions. That helps make boring people interesting.

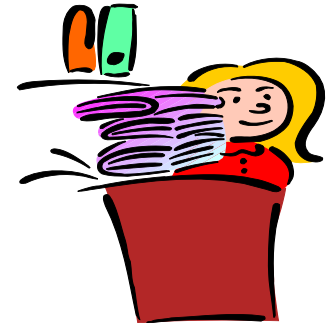
Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do With Combined AD/HD Students With Social Interaction Problems?

- Teach them manners and how to smile.
- Teach them how to enter a group.
- “WAIT A DAY RULE”: If you are upset, anxious, or angry wait a day before responding.
- Allow them a self-imposed **TIME OUT** to walk, move, etc.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006

Social Skills Intervention Programs



Father Flanagan's Girls and Boys Town has done 40 years of social skills training research with many different child and adolescent populations. Many Books are available at Boy's Town Press:

- www.boystownpress.org
- www.girlsandboystown.org

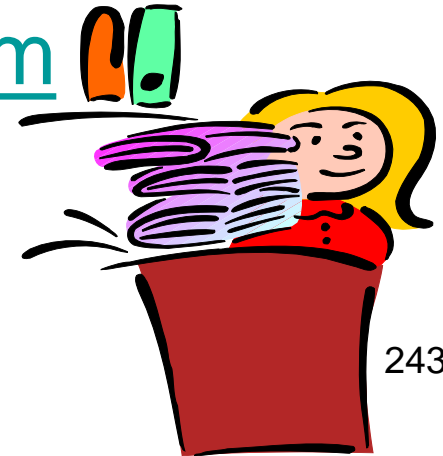
Dowd, T., and Tierney, J. (1992). Teaching Social Skills to Youth. Boys Town, NE: The Boys Town Press.

Wilson Anderson's Social Skill Program



- **SOCIAL SKILLS DEVELOPMENT**
 - Based on ***Girls and Boys Town*** model
 - “Refrigerator Friendly”
 - Reproducible, 24 pages
 - Available from:

www.edconsultmidwest.com



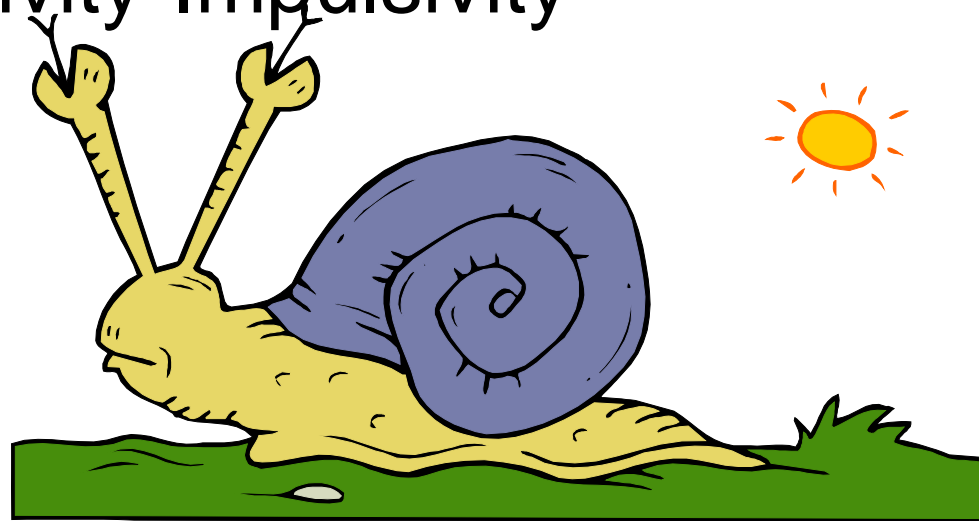
Excellent Book for Those Working With AD/HD Children

Barkley, R. A. (2005) Taking Charge of
ADHD: The Complete, Authoritative Guide
for Parents (3rd edition). New York:
Guilford.



Attention-Deficit/Hyperactivity Disorder, Predominately Inattentive Type (DSM-IV, TR # 314.00)

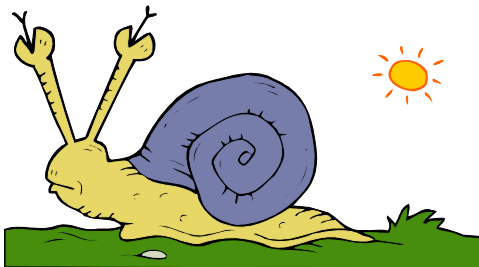
- Brown believes the Inattentive Type has all the symptoms of the Combined Type except Hyperactivity-Impulsivity



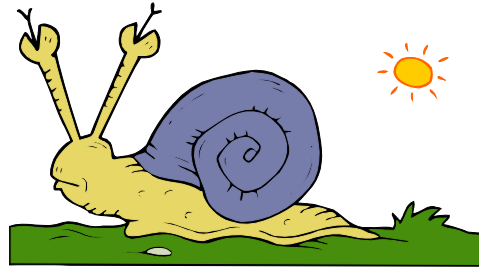
Inattentive AD/HD (Continued)

Brown believes the following are the areas of difficulty for the Inattentive Type:

1. Difficulty organizing and activating for work
2. Problems sustaining attention and concentration
3. Problems sustaining energy and effort



Brown and Inattentive AD/HD (Continued)



- 4. Problems managing affective interference
- 5. Problems utilizing working memory and accessing recall.

Brown, T.E. (1995). Differential Diagnosis of ADD Versus ADHD in Adults. In K.G. Nadeau (Ed.), Attention-Deficit Disorder in Adults. New York, NY: Bruner/Mazel, p. 93-108.

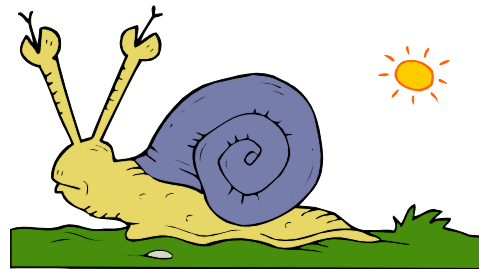
Brown and Inattentive AD/HD (Continued)

- People with Inattentive AD/HD **DO NOT** have a problem with **ACTION**.
 - They do not have “time blindness.”
 - They experience the passage of time.
 - They think about the consequences of their actions and how they can come back to haunt them.
 - They connect cause to effect.

Brown, T.E. (2002). Social Ineptness & “Emotional Intelligence” in ADHD. Paper presented at the 14th Annual CHADD International Conference, October 17-19, Miami Beach, FL.

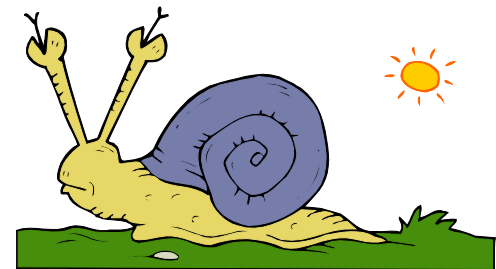
Barkley's Comments on Inattentive AD/HD Symptoms

- They tend to be in a FOG
- Not very Attentive
- High levels of Generalized Anxiety
- Lethargic
- Slow moving



Barkley (Continued)

- Slow intellectual processing speed
- Short-term memory problems
- Sequential memory problems
- Don't fully process information



Barkley (Continued)

- Difficulty discerning relevant from irrelevant information

Barkley, R.A. (1998). ADHD in Children, Adolescents and Adults: Diagnosis Assessment and Treatment. New England Educational Institute, Cape Cod Symposia, August, Pittsfield, MA.



The Genetics of the Inattentive Type

- Brown believes it is a genetically separate and distinct disorder from the Combined Type

Brown, T. E. (1997). Impairments of Memory In ADD and Learning Disorders. Paper presented at the 3rd Annual National ADDA Adult ADD Conference, St. Louis, Mo.

- Barkley believes the same.

Barkley, R. A. (1998A). ADHD In Children, Adolescents, and Adults: Diagnosis, Assessment and Treatment. New England Educational Institute, Cape Cod Symposium, August, Pittsfield, MA.

Etiology of Inattentive Type

Barkley speculated, “...ADHD-I may involve posterior associative cortical areas and/or cortical-subcortical feedback loops, perhaps involving the hippocampal system” (p. 89)

Barkley, R.A. (1990). Attention Deficit Hyperactivity Disorder. New York, NY: Guilford.

Etiology of Inattentive AD/HD (Continued)

Barkley said the Inattentive Type involves the posterior cortex, especially the parietal-occipital-thalamus complex. Abnormal evoked potentials have been found in the initial phase, but not the P-300 like in the Combined Type. BEAM scans suggest the anterior lobes.

Barkley, R.A. (1998A). ADHD in Children, Adolescents, and Adults: Diagnosis, Assessment, and Treatment. New England Educational Institute, Cape Cod Symposium, August, Pittsfield, MA.

Neurochemistry of Inattentive ADHD

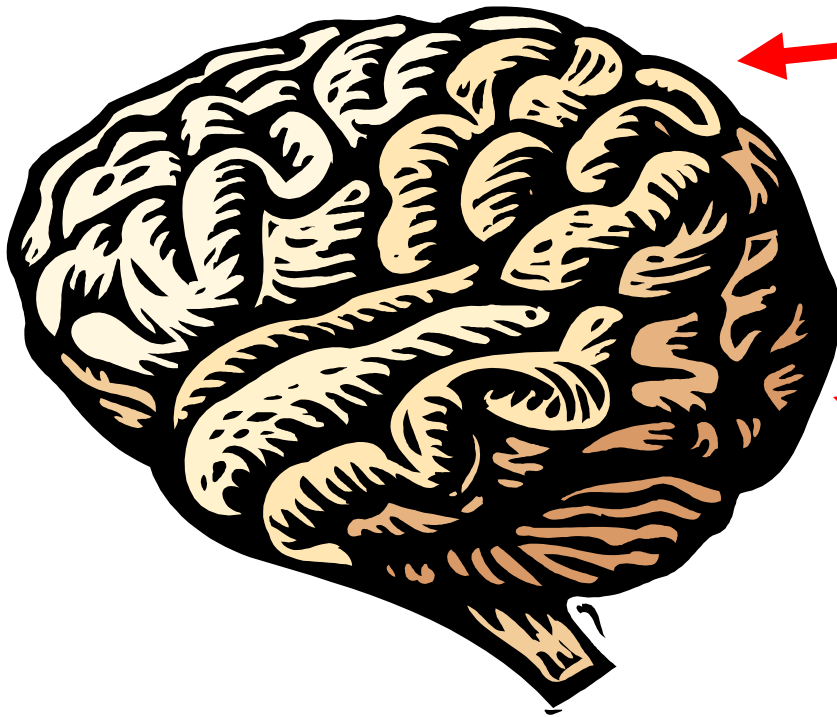
Barkley speculated there is a problem related to Norepinephrine.

Barkley, R.A. (1998A). ADHD in Children, Adolescents, and Adults: Diagnosis, Assessment, and Treatment. New England Educational Institute, Cape Cod Symposium, August, Pittsfield, MA.



The Brain and Inattentive AD/HD

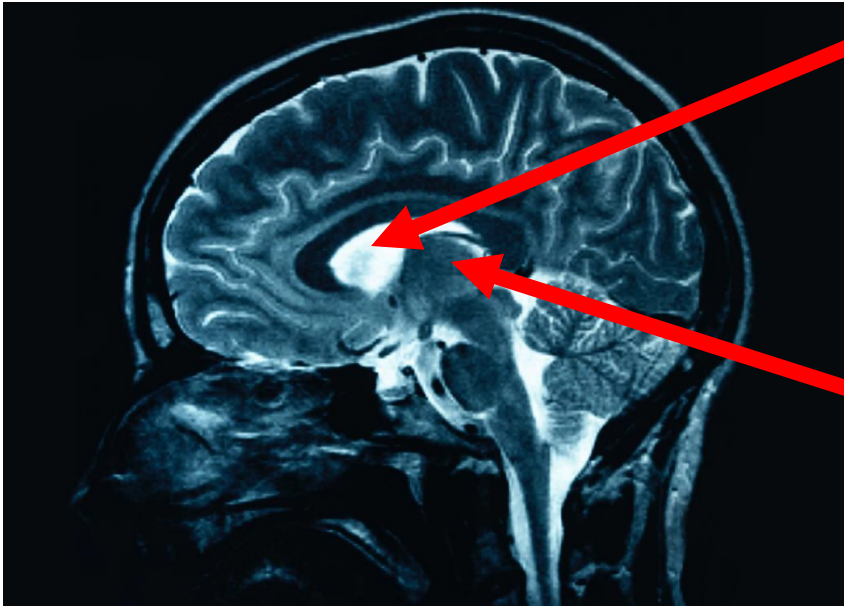
- Parietal Lobe



- Occipital Lobe

The Brain and Inattentive AD/HD

- Thalamus



- Hippocampus

DSM-V (2012)

- Attention-Deficit/Hyperactivity Disorder, Combined Type
- Attention-Deficit/Hyperactivity Disorder, Inattentive Type
- **Attention-Deficit/Hyperactivity Disorder, Not Otherwise Specified**

Attention-Deficit/Hyperactivity Disorder, Not Otherwise Specified

- Those who do not meet clinical criteria for AD/HD, but their symptoms cause them significant problems anyway.
- Those who have sustained an insult to the brain and as a result they have AD/HD-like symptoms. Medications do not work as well with this group as they do with those with genetic AD/HD. Some call this “Acquired AD/HD.”

Barkley, R.A. (2006). Attention Deficit Hyperactivity Disorder, Third Edition. New York, NY, Guilford.

AD/HD and Gender



- Quinn and Nadeau (2002) believe there should be separate female symptoms and criteria for AD/HD.
- Goldstein and Gordon (2003) say there is no research to justify this.
- ***However, AD/HD girls suffer socially more socially than AD/HD boys.***

Quinn, P. O., and Nadeau, K.G. (2002). Gender Issues and AD/HD. Silver Spring, MD: Advantage.

Goldstein, S. and Gordon, M. (August, 2003). Gender Issues and ADHD: Sorting Fact From Fiction. ADHD Report, 11 (4), 7-11, 16.

Langer, H. (2002). Role Expectations. In P.O. Quinn and K.G. Nadeua (Eds.), Gender Issues and AD/HD. Silver Spring, MD: Advantage, pp. 70-80.

What Can I Do In The Classroom With AD/HD Students?

- Remember AD/HD kids as a group are 30% less mature than non-AD/HD kids in terms of controlling their hyperactivity, impulsivity and inattentiveness.
- Remember to subtract 1/3rd from their chronological age and that is a good indication of where they are developmentally with hyperactivity, impulsivity and inattentiveness. Adjust your classroom management style appropriately.

Barkley, R.A. (2006). Attention Deficit Hyperactivity Disorder, Third Edition. New York, NY, Guilford.

What Can I Do In The Classroom With AD/HD Students?

- **ACT DON'T YAK!**

Barkley, R.A. (2002A, Tape 1). ADHD Symposium: Nature, Diagnosis, and Assessment: Comorbidity and Developmental Course of ADHD. University of Massachusetts, January, Distributed by Stonebridge Seminars, Westborough, MA 01581.

What Can I Do In The Classroom With AD/HD Students?

- Consider the child with AD/HD in the class as the “canary in the coal mine” attentionally in the room.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With AD/HD Students?

- Give class assignments at the beginning of class to focus the child's attention on what is important.
- “Kids with AD/HD are unresponsive and need stimulation. In the absence of that stimulation they will become active and attend to novelty and create more novelty than their peers will.” (S. Zentall)

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With AD/HD Students?

- Provide Increased Supervision: 30% Rule
- Assign a case manager
- Use Daily Report Cards
- Directly Teach:
 - Problem Solving, Time Management, Organizational Skills, Anger Management, Conflict Resolution, Decision Making Skills.

Author (2006). CHADD Educator's Manual. Landover, MD: CHADD.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Immediate Intense Rewards that are Changed Often
- Provide Feedback at the Point of Performance – They Live in the NOW!
- Provide External Memory Prompts
- Use a Token Economy with Younger Students.

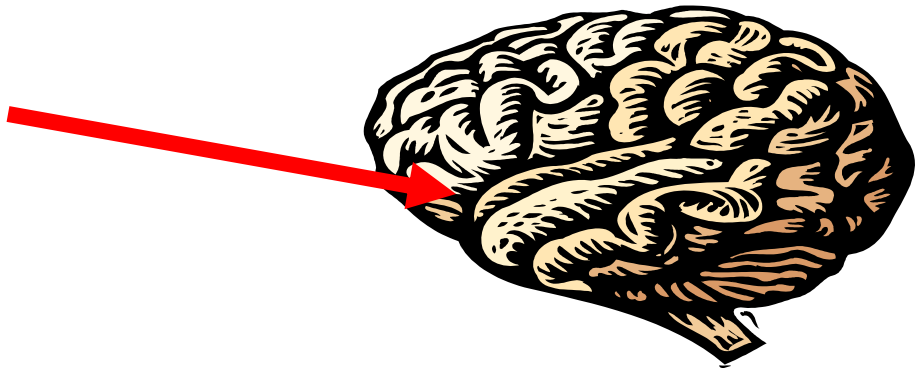
Author (2006). CHADD Educator's Manual. Landover, MD: CHADD

Reinforcers and AD/HD

- Some with AD/HD (D2D4 allele) may find reinforcers less rewarding than the general population because they may have fewer dopamine receptors in their nucleus of accumbens. “Reward Deficiency Syndrome”...cortisol increases dopamine and some AD/HD people become stress junkies as a result.

Ratey, J.J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.

nucleus of accumbens



What Can I Do In The Classroom With Combined Type AD/HD Students?

- Group Reward System: When the Class finishes its project everyone is rewarded.
- Use peer mediated reinforcement.
- Contract in writing with student. Include parents/guardians in contract.
- Avoid humiliation!
- Give the student choices, but only two or three.

Author (2006). CHADD Educator's Manual. Landover, MD: CHADD.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Eliminate Criticism and Blame
- Give “I” Messages
- Use “Time-In” To Learn Pro-Social Skills Instead of “Time-Out”
- Directly Teach Them to Self-Advocate:
 - Teach them about their disorder, how they manifest it, why they take medication, how to ask for help, what their “rights are”, etc.

Author (2006). CHADD Educator’s Manual. Landover, MD: CHADD.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Listening Tasks:
 - Always use the child's name
 - Teach mnemonic (memory tricks)
 - Lucas, J. and Lorrane, H. (1974). The Memory Book. New York, NY: Ballantine.
 - “I have three things I want you to remember”
 - Reduce Talking

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Magnify what is important
 - Novelty-New, Colorful, Plenty of Movement, Bizarre
- Reduce what is not important
 - Selective Attention (Medication only helps this)
- Remediate

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Children with AD/HD are less talkative in demand speech situations.
- Children with AD/HD do better in corral responding.
- Use “Stop Light Cards”

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Music without words will help with Math and Reading, not Science...Slow music to improve handwriting, fast music for room clean up.
- Use Self Monitoring: Am I paying attention? Yes/No?
 - Have them keep a written record for rewards

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Teach them how to ask questions. That helps make boring people interesting.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students?

- AD/HD kids do not learn routines easily.
- They will cause disruption, display aggression and provocation to get stimulation-routines are boring! Teach the routines...
- Challenge them: “I bet you can’t...”
- Exercise: After exercise they are less active and aggressive.
- Have them sit on an exercise ball in class.



Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

www.expresspersonnel.com

What Can I Do In The Classroom With Combined Type AD/HD Students?

- Reading Tasks:
 - Focus on vocabulary
 - “Active Reading” – SQ4R: Survey, Question, Read, (W)rite, Recite, & Review
 - Use music without lyrics.
 - **Use Color**
 - Allow them to sketch the story.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students With Reading Comprehension Problems?

1. Stimulant Medication
2. “Active Reading” – SQ4R
3. Sketch The Story
4. Referral to someone trained in Visualizing and Verbalizing for Language Comprehension and Thinking (Bell, 1991) of the Lindamood-Bell Learning Processes.

www.lindamoodbell.com

Bell, N. (1991). Visualizing and Verbalizing for Language Comprehension and Thinking. San Luis Obispo, CA: Grander Educational Publishing.

What Can I Do In The Classroom With Combined Type AD/HD Students With Reading Comprehension Problems? (Continued)

- For a review of the above please refer to the following articles from my website (www.kevintblake.com):
 - Blake, K.T. (2004). "[Two Common Reading Problems Experienced by Many AD/HD Adults: Revisited.](#)" News and Local Articles of Interest (Newsletter of [CHADD of Tucson](#))
 - Blake, K.T. (May/June, 2000) "[Two Common Reading Problems Experienced by Many AD/HD Adults.](#)" *Attention!*, 6 (5), pp. 30-33.

What Can I Do In The Classroom With Combined Type AD/HD Students With Reading Comprehension Problems? (Continued)



5. Referral to someone trained in the CogMed RM Computer Program; helps 80% of Combined Type AD/HD students improve working memory and reading comprehension.

www.cogmed.com

Klingberg, T. (February, 2006). Training Working Memory. AD/HD Report, 14 (1), pp. 6-8.

Barkley, R. (February, 2006). Editorial Commentary Issues in Working Memory Training in ADHD. ADHD Report, 14 (1), pp. 9-11.

Ingersoll, B. (October 26, 2006). Complementary Treatments for AD/HD. Paper Presented at the 18th Annual CHADD International Conference, Chicago, IL.

Klingberg, T. and Andersson, M. (October 28, 2006). Computerized Training of Working Memory in Children with AD/HD. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL.

What Can I Do In The Classroom With Combined Type AD/HD Students With Reading Comprehension Problems? (Continued)

6. Referral to a speech language pathologist with training and experience in treating reading comprehension problems in children.

American Speech-Language Hearing
Association: www.asha.org

What Can I Do In The Classroom With Combined Type AD/HD Students With Math Problems?

- They benefit less from practice.
- They need more novelty in the classroom.
- Touch Math (Multisensory Math) – Example:
<http://www.touchmath.com/>
- Teach how to use an abacus.
- Use competition in the classroom.
- Allow them to think aloud. Remember they are delayed in internalized speech!

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students With Math Problems? (Continued)

- Don't waste time mastering basic skills as they do not tend to generalize:
 - They have a problem with fluency.
 - They have sequential memory problems.
- Focus on their problem solving in math.
- The higher level skills are the most important for them to learn.
- Use graph paper for written problems.
- Use calculators
- Play music without lyrics.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006.

What Can I Do In The Classroom With Combined Type AD/HD Students With Written Expression Problems?

- Use Graphic Organizers
- Have them sketch out the story in a logical sequence.
- Encourage keyboarding
- Play slow music without words

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006

What Can I Do With Combined AD/HD Students With Social Interaction Problems?

- Teach them manners and how to smile.
- Teach them how to enter a group.
- “WAIT A DAY RULE”: If you are upset, anxious, or angry wait a day before responding.
- Allow them a self-imposed **TIME OUT** to walk, move, etc.

Zentall, S. (2006). Translating Your Student's Attentional and Behavioral Style into Academic and Social Success. Paper presented at the 18th Annual CHADD International Conference, Chicago, IL, October 25-28, 2006

Strategies for the AD/HD Student in the Classroom

- Teach AD/HD students how to **cram** for an exam. Remember, they have “**Time Blindness**.”
 - Admit limitations and let them go
 - Clear your schedule and manage your time
 - Get an idea of the exam’s structure
 - Eliminate unimportant information
 - Memorize the important information cold. Knowing 1/3rd of the information cold is better than knowing all of it a little.

Mooney, J. (Spring, 2008). Cram Like a Pro. ADDitude, p. 46-47.

Strategies for the AD/HD Student in the Classroom

- How to do an **All-Nighter**:
 - On “cram day” make a list of things to study
 - Choose a study site where you will not be disturbed and can go to sleep
 - Have everything you need to study available
 - Take 20 minute naps every 3 hours starting in the early afternoon
 - Study the most difficult material until 5:00 AM
 - Take brisk walks and run if you get sleepy
 - Continue to eat & no junk food!

Mooney, J. (Spring, 2008). Cram Like a Pro. ADDitude, p. 46-47.

Academic Accommodations and AD/HD

EXTENDED TIME

1. Probably the most used accommodation under ADA.
2. Good for slow processing and poor working memory.
3. Also good for problems with reading comprehension when re-reading is necessitated.
4. Good when speed is not a prerequisite.

Brown, T.E. Psychosocial Interventions for Attention Deficit Disorders and Comorbid Conditions. In T.E. Brown (Ed.), Attention-Deficit Disorders and Comorbidities in Children, Adolescents, and Adults. Washington, DC: American Psychiatric Press, pp. 537-568.

Academic Accommodations for AD/HD

- Aid with “Project Time Management”
 - “Chunk Tasks”
 - Give them more due dates with less time between them.
 - Don’t just assign a term paper at the beginning of semester.
 - Remember those with AD/HD Combined Type are **“TIME BLIND.”**

Barkley, R.A. (2006). Attention Deficit Hyperactivity Disorder, Third Edition. New York, NY, Guilford.

Technology for the AD/HD Student in the Classroom

- Attention Training System
- Available from:

<http://www.gsi-add.com/attentiontraining.htm>

GSI Publications



Technology for the AD/HD Student in the Classroom

- Good Vibrations
- Large 12 inch timer
- MotivAider System
- Available from:

www.addwarehouse.com



Technology for the AD/HD Student in the Classroom

- Watchminder 2
 - Vibrates to remind student of deadlines
 - It can remind them to check to see if they are “on task.”

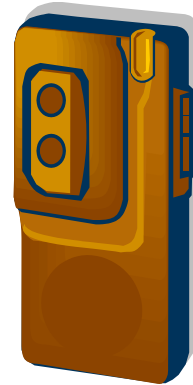


Available from:

<http://watchminder.com/>

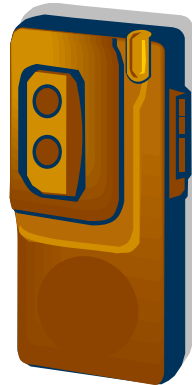
Technology for the AD/HD Student in the Classroom

- “Nag Recordings” made by father
- Record lectures
- Available from:
 - Walmart
 - Best Buy
 - Staples, etc.



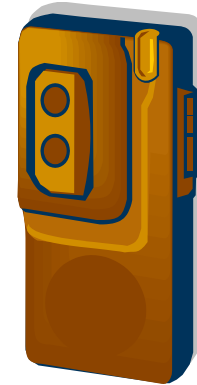
Technology for the AD/HD Student in the Classroom

- Digital Voice Recorder with Camera
- Available from:
 - www.rcaaudiovideo.com



Technology for the AD/HD Student in the Classroom

- Listen to audio-recording of classroom lectures over and over while doing other things:
 - Eating, getting dressed, taking a shower, in the car, cleaning room, etc.

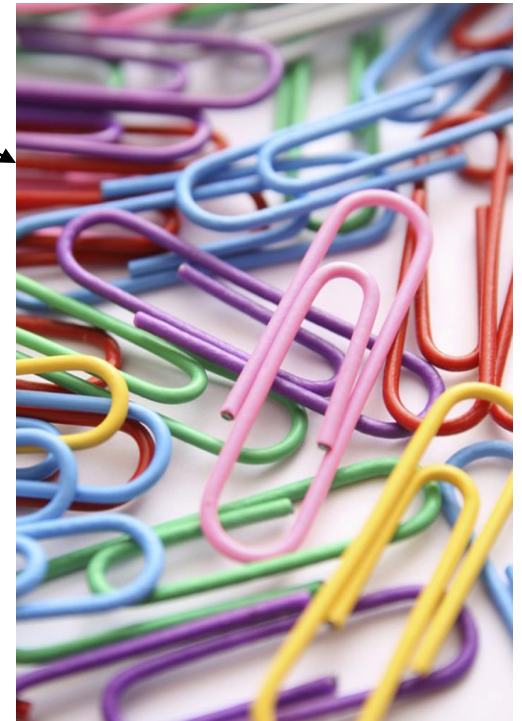


Technology for the AD/HD Student in the Classroom

- Paper Clips:

- Mirror:

www.plumbingsupply.com



Technology for the AD/HD Student in the Classroom

- Sound suppression technology:



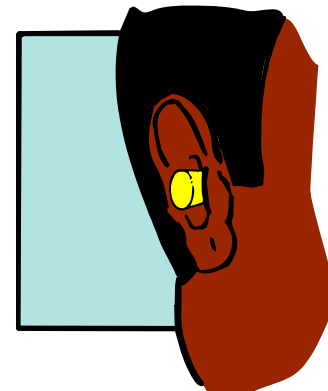
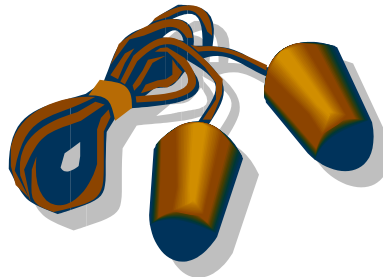
- www.bose.com

Sound Suppression Technology

- Fan



- Ear Plugs



Technology for the AD/HD Student in the Classroom

- Personal Digital Assistant (PDA)

www.palm.com



- Time Management Organizer

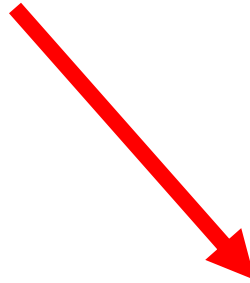
www.FranklinCovey.com



Technology for the AD/HD Student in the Classroom

- Rolodex Organizer:

www.franklin.com



Technology for the AD/HD Student in the Classroom

- Exercise Ball to sit on:

- www.gymball.com

- <http://gymball.com/doctors-corner.html>



- Stress Ball to Squeeze:

- www.atlaspen.com



Technology for the AD/HD Student in the Classroom

- Two sets of textbooks:
 - One set at home
 - One set at school
 - The student will never have to remember to take his/her books to school, or home.



AD/HD Books for Educators

- Zentall, S. (2006). ADHD and Education: Foundations, Characteristics, Methods, and Collaborations. New York, NY: Merrill.
- Mather, N. & Goldstein, S. (2001). Learning Disabilities and Challenging Behaviors. Baltimore, MD: Brookes.
- Author (2006). CHADD Educator's Manual. Landover, MD: CHADD.
- DuPaul, G., and Stoner, G. (2004). ADHD in the Schools: Assessment and Intervention Strategies, Second Edition. New York, NY: Guilford.

AD/HD Books for Parents

- Barkley, R. A. (2005) [Taking Charge of ADHD: The Complete, Authoritative Guide for Parents \(3rd Edition\)](#). New York, N Y: Guilford.
- Barkley, R. A., & Benton, C. (1998). [Your Defiant Child: 8 Steps to Better Behavior](#). New York, NY: Guilford.
- Silver, L.B. (2006). [The Misunderstood Child, 4th Edition](#). New York, NY: Crown.
- Tridas, E.Q. (2007). [From ABC to ADHD: What Parents Should Know About Dyslexia and Attention Problems](#). Baltimore, MD: International Dyslexia Association.

Helpful Organizations

- Learning Disabilities Association (LDA): www.lda.org
- International Dyslexia Association (IDA): www.interdys.org
- Children and Adults with Attention Deficit Disorders (CHADD): www.chadd.org
- National Attention Deficit Disorder Association (ADDA): www.add.org

Helpful Organizations

- Nonverbal Learning Disabilities Association (NLDA): www.nlada@nlada.org
- MAAP Services for Autism and Asperger's Disorder: www.maapservices.org
- ADD WareHouse: www.addwarehouse.com
- LinguiSystems: www.linguisystems.com

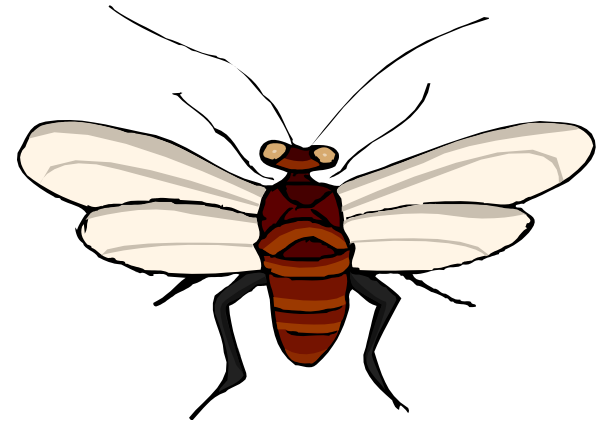
Alternative and Integrative Medicine Treatments for LD, AD/HD, NVLD and Asperger's Disorder



Alternative and Integrative Medicine Treatments of AD/HD & LD

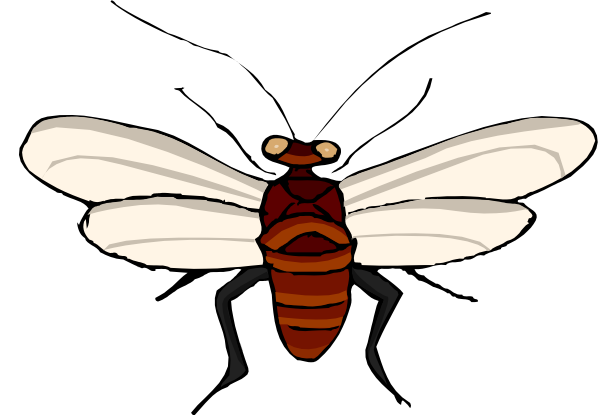
“We should all eat dung, because a thousand flies can’t be wrong!”

Russell Barkley, Ph.D.



Barkley, R.A. (1998). ADHD in Children, Adolescents, and Adults: Diagnosis Assessment and Treatment. New England Educational Institute, Cape Cod Symposia, August, Pittsfield, MA.

Controversial Treatments



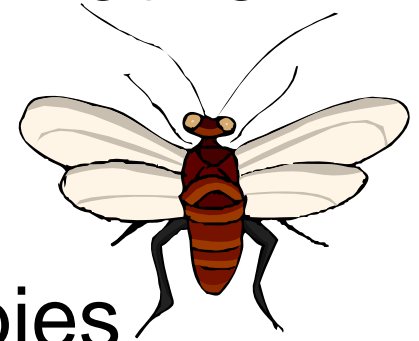
When to question if a treatment is legitimate:

- when no research in peer-reviewed journal is available;
- when they say, “traditional medicine, etc.” refuses to accept what they are saying;
- if most professionals would not use the method; and
- when the person pushing the treatment says, “...prove me wrong...” (p.4)

Silver, L. (Summer, 2001). Controversial Therapies, Theme Editor's Summary. Perspectives, 27 (3), pp.1 and 4.

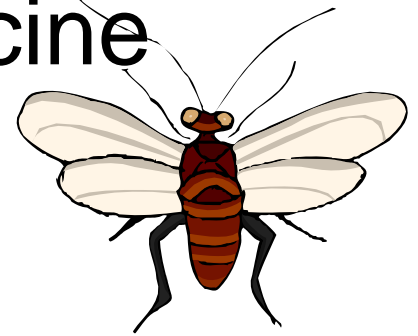
Alternative and Integrative Medicine Treatments of AD/HD & LD

- 56% of those with Anxiety use alternative treatments.
- 53% with Depression
- 16% of hospitals offer CAM therapies
- Highest rates used by those with serious and debilitating conditions



Dittmann, M. (June, 2004). Alternative Health Care Gains Steam. Monitor On Psychology, 35 (6), pp. 42-44.

Alternative and Integrative Medicine Treatments of AD/HD & LD

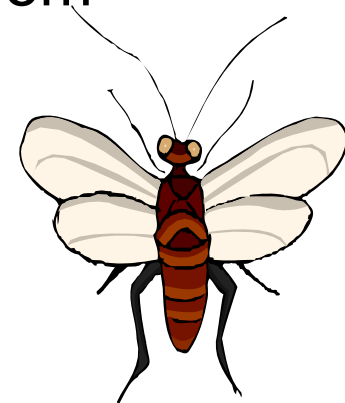


- “Today’s complementary and alternative medicine is tomorrow’s mainstream, but first it must meet with rigorous scientific evaluation.”
- –Alan Leshner, Ph.D., National Advisory Council for Complementary and Alternative Medicine and CEO of the American Association for the Advancement of Science (p. 44).

Dittmann, M. (June, 2004). Alternative Health Care Gains Steam. Monitor On Psychology, 35 (6), pp. 44.

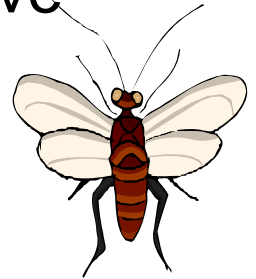
Alternative, Integrative & Complementary Medicine and LD and AD/HD

- December 2003 edition of **Attention!** Available from CHADD.
- CHADD's National Resource Center
www.help4adhd.org
- www.MyADHD.com
- Rappaport, L.A., & Kemper, K.J. (2003).
Complementary and Alternative Therapies in
Childhood Attention and Hyperactivity Problems.
Developmental and Behavioral Pediatrics, 24, pp. 4-8.
- Silver, L. (Summer, 2001). Controversial Therapies,
Theme Editor's Summary. Perspectives, 27 (3), pp.1
and 4.



Places To Check Out “New” Treatments For AD/HD and LD: National Institute of Health (NIH)

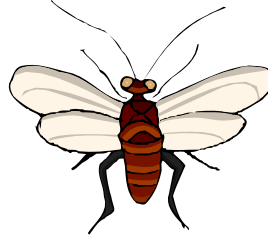
- National Center for Complementary and Alternative Medicine: www.nccam.nih.gov
- NCCAM Clearinghouse: 888-644-6226
- Some findings:
 - St. John’s Wort (*Hypericum Perforatum*) no better than placebo with Major Depression. Now being studied with “Minor” Depression-There is some research that St. John’s Wort can help with mild to moderate depression.
More research is needed!



Dittmann, M. (June, 2004). Alternative Health Care Gains Steam. Monitor On Psychology, 35 (6), pp. 42-44.

Author (March 2004). Get the Facts: St. John’s Wort and The Treatment of Depression. National Center for Complementary and Alternative Medicine, National Institutes of Health, NCCAM Publication #: D005: www.nccam.nih.gov/health/stjohnswort/

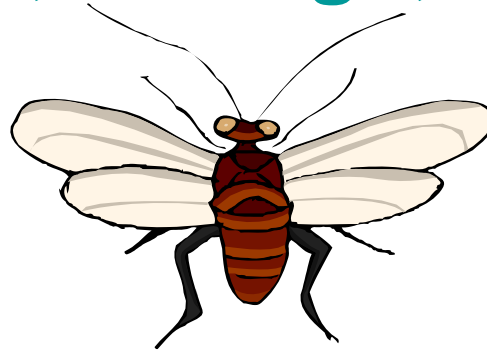
Places to Check Out “New” Treatments for AD/HD and LD



- www.interdys.org
- www.chadd.org
- Cook, P. (1997). Knowledge is Power: Guidelines for Being an Informed Health Care Customer. Attention!, 4 (2), pp. 14-17.
- Arnold, L.E. (2002). Contemporary Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder. Newtown, PA: Handbooks in Health Care.
- Author (May, 2004). Dangerous Supplements: Still at Large. Consumer Reports, 69 (5), pp. 12-17.
- Office of Dietary Supplements (ODS), National Institutes of Health: www.ods.nih.gov
- CAM on PubMed-National Library of Medicine: www.nlm.nih.gov/nccam/comon/pubmed.html

PLACE TO CHECK OUT CAM THERAPIES

Ingersoll, B. (October 26, 2006).
Complementary Treatments for
AD/HD. Paper Presented at the 18th
Annual CHADD International
Conference, Chicago, IL.



World's Greatest Spell Checker

- Among other things:
 - Dr. Freda Blake



Thank You for Coming!



- Have a safe trip home and God Bless!
- Kevin T. Blake, Ph.D., P.L.C.

520-327-7002

www.drkevintblake.com

E-mail:

kblake@theriver.com