



Attention Deficit Disorder

IMSA students arrive on campus with a wide variety of psychological and social differences. While they share many things in common, each and every student brings a unique learning style to their new academic setting. For some of these students that unique learning style encompasses specific learning differences or difficulties. It is not true that talented and gifted students cannot experience learning disabilities, motivational problems, emotional disorders and so on. They can and do. Some students may experience such difficulties for the first time in their lives *after* coming to IMSA. This is because they are in an accelerated learning environment that requires higher level cognitive skills and more intense concentration and attention. The environment seems to “uncover” cognitive issues that may indicate a preexisting condition like mild to moderate ADD. As a result, some students may be referred for an ADD evaluation or screening. Using the Brown Attention Deficit Disorder Scales for Adolescents, we can provide a researched based self-report of the symptoms the student is experiencing. This can alert the student and parents to the need for a more thorough evaluation for ADD and possible treatment.

There has been a lot of talk in the news over the past few years about ADD being over-diagnosed in children and adolescents. There is also a concern that



medication is the only treatment recommendation and that stimulants are being over-prescribed for what could be considered “normal” adolescent behaviors. This is also a concern in the gifted population. Gifted students can display behaviors that mimic ADD symptoms but are completely normal given their level of cognitive development. It can take some time to determine if a student’s difficulty with attention and concentration are the result of developmental differences or are the result of disordered executive functioning in

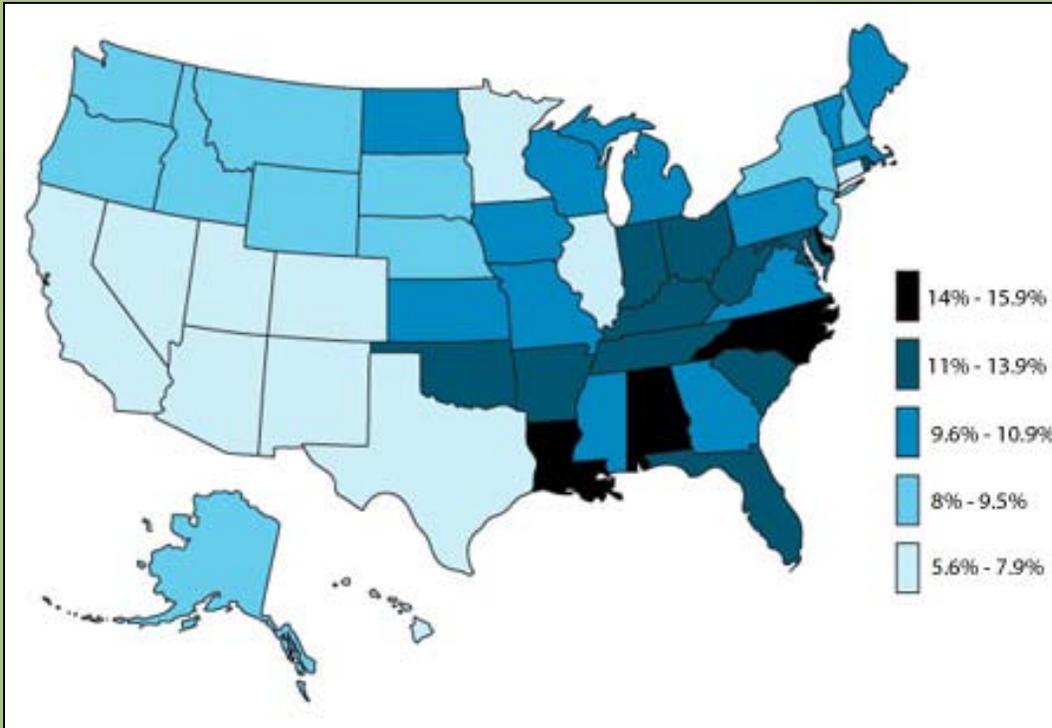
the brain. It takes a combination of parent and teacher observation, learning strategy evaluation, and screening for ADD symptoms before a diagnosis should even be attempted. It is also difficult to find a medical professional who can accurately diagnose ADD and make meaningful treatment recommendations beyond just writing a prescription. That being said, Attention Deficit Disorder is becoming better defined in the medical literature as a problem in executive functioning that can be treated both behaviorally and medically. It is a disorder that can affect children, adolescents and adults.

According to the Center for Disease Control and Prevention, a 2007 survey of parents in the United States reported the following:

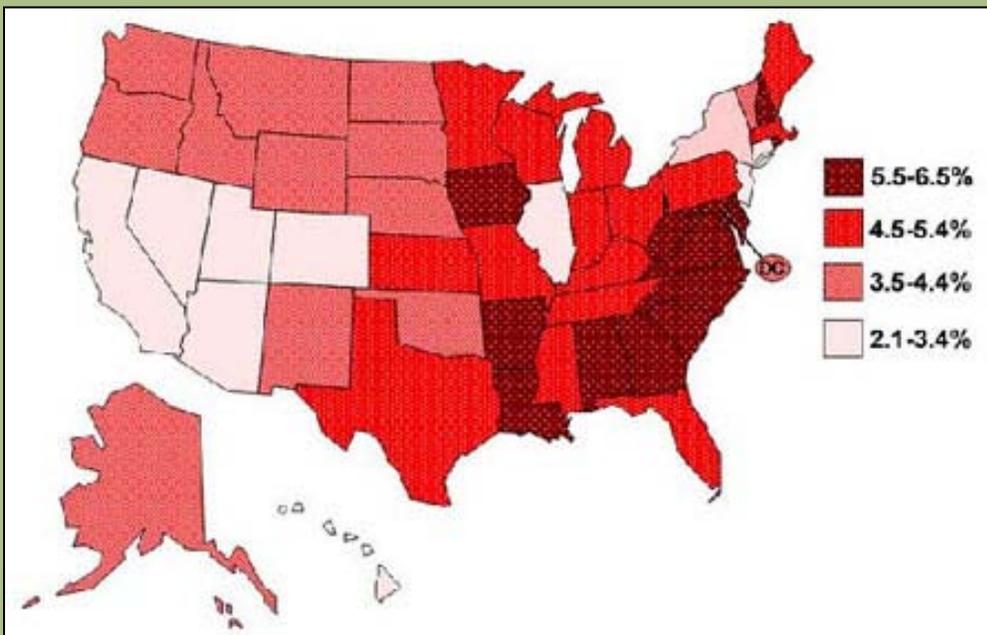
[reference: www.cdc.gov/ncbddd/adhd/data.html]

- Of the total number of parents surveyed, 9.5% of their children 4-17 years of age had been diagnosed with ADHD. This translated into 5.4 million children.
- The percentage of children with a parent-reported ADHD diagnosis increased by 22% between 2003 and 2007.
- Rates of ADHD diagnosis have increased an average of 3% per year from 1997 to 2006 (http://www.cdc.gov/nchs/data/series/sr_10/Sr10_237.pdf)
- Boys (13.2%) were more likely than girls (5.6%) to have ever been diagnosed with ADHD.
- Rates of ADHD diagnosis increased at a greater rate among older teens as compared to younger children.
- Prevalence of parent-reported ADHD diagnosis varied substantially by state, from a low of 5.6% in Nevada to a high of 15.6% in North Carolina.
- The highest rates of parent -reported ADHD diagnosis were noted among multiracial children and children covered by Medicaid.





State-based Prevalence Data of ADHD Diagnosis
[Illinois is at 6.2%]



State-based Prevalence Data of ADHD Medication Treatment
[Illinois is at 3.3%]

Reference: (CDC: [/ncbddd/adhd/prevalence.html](http://ncbddd/adhd/prevalence.html))

According to the parent survey data from the CDC, a diagnosis of ADHD may be influenced by variables like socio economic status, gender, geographic location, race, and type of medical insurance coverage. While the diagnostic criteria for diagnosing ADHD are fairly clear, they may not always be applied in a consistent manner. In other words, children may be diagnosed with ADD at a higher rate if they are male, receive Medicaid, and live in North Carolina!! That explains some of the confusion and anger people feel when they believe that ADD is over-diagnosed and that children and teens are being over-medicated.

Often times, children and teens that are talented and gifted display behaviors that mimic symptoms of ADD. This can make it more confusing for the parents of “smart kids” who must consider if their child has actual problems with attention and concentration. Here are some comparisons between behaviors associated with having symptoms of ADD *and* behaviors associated with giftedness:

Behaviors associated with ADD

1. Poorly sustained attention in almost all situations
2. Diminished persistence on tasks not having immediate consequences
3. Impulsivity, poor ability to delay gratification
4. Impaired adherence to commands to regulate or inhibit behavior in social contexts
5. More active, restless than normal children
6. Difficulty adhering to rules and regulations

Behaviors associated with Giftedness

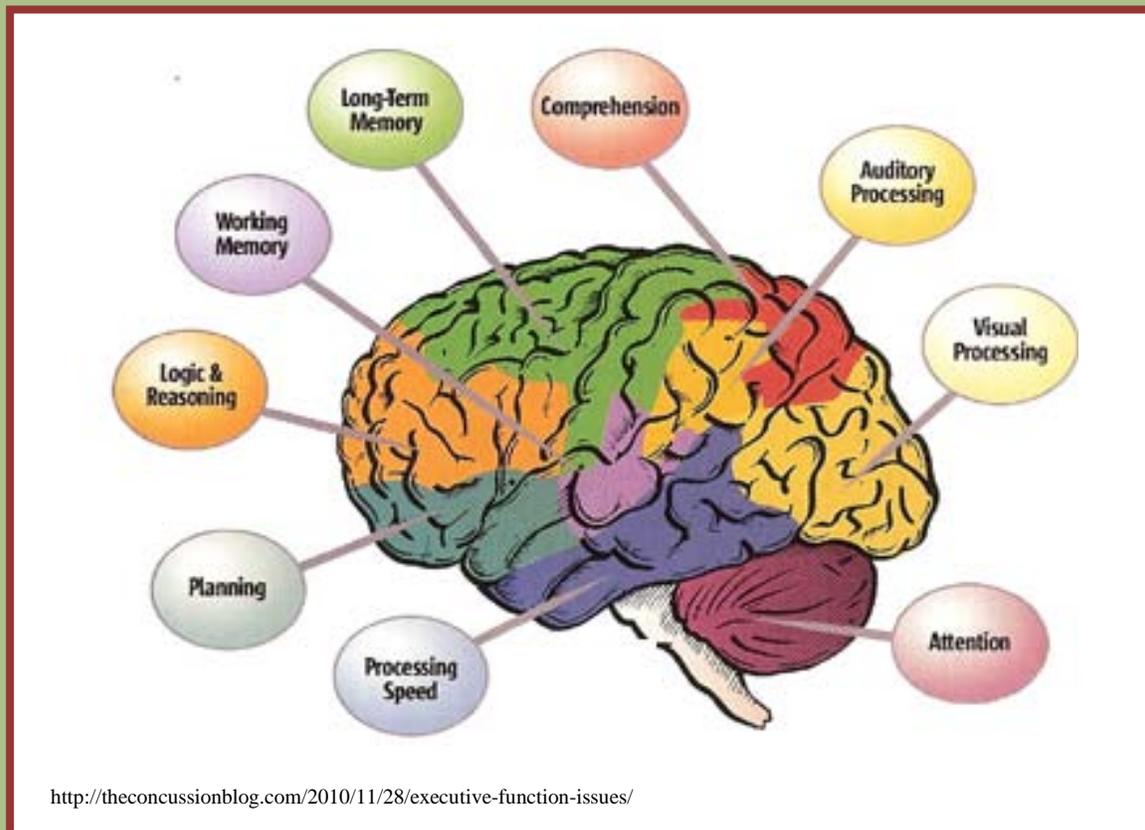
1. Poor attention, boredom, daydreaming in specific situations.
2. Low tolerance for persistence on tasks that seem irrelevant
3. Judgment lags behind intellect
4. Intensity may lead to power struggles with authorities
5. High activity level; may need less sleep
6. Questions rules, customs, and traditions

[Misdiagnosis and Dual Diagnoses of Gifted Children and Adults: ADHD, Bipolar, OCD, Asperger's, Depression, and Other Disorders. 2005. Great Potential Press, Inc. Scottsdale, AZ. p.45]

Some of the behaviors associated with giftedness can be summed up in the term “Asynchronous Development.” According to the Davidson Institute for Talent Development (2006, <http://www.davidsongifted.org/>), giftedness is defined as “asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm.” Cognitive abilities are often better

developed than emotional abilities and there can be variation in attention and concentration. Attention might drift because of boredom with the material rather than because of actually being “inattentive.”

Executive Functioning



“Executive Functioning” means that the brain works as a system to harmonize the various parts to perform a specific task or tasks, much like a conductor directs the different parts of the orchestra to work together to produce a symphony. It is usually the frontal lobes of the brain that activate, monitor, orchestrate, evaluate and help the brain adapt to different strategies to accomplish a variety of different tasks. Attention Deficit Disorder involves a disruption in harmony. The “conductor” is not always available to help the brain coordinate its various functions to complete a specific goal. In the case of ADD, there is a deficit in focusing attention, drawing from working memory, and then sustaining concentration long enough to complete the task. It is thought that the brain stem (which is responsible for energizing the higher levels of the brain) does not send

enough energy to the frontal lobes, so the brain is less able to filter out extraneous stimuli and stay focused on coordinating the thought processes. That is why stimulant medication is usually prescribed. Medications like Ritalin bind with receptors in the brain that help provide enough energy to maintain attention and concentration for prolonged periods of time.

Characteristics of ADHD

The term “Attention Deficit Disorder” (ADD) and “Attention Deficit Hyperactivity Disorder” (ADHD) are considered interchangeable. There are three subtypes to the actual diagnosis:

ADHD Predominantly Inattentive Type

ADHD Predominantly Hyperactive-Impulsive Type

ADHD Combined Type.

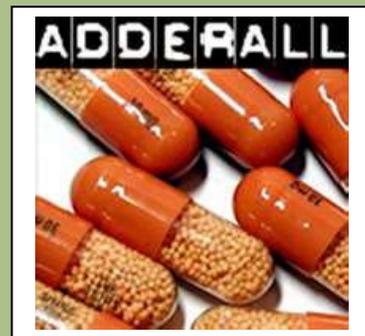
The majority of people diagnosed with ADD do not display extreme hyperactivity. Most display a mixture of symptoms that involve varying levels of attention, concentration and behavioral issues. The common characteristics of ADD are listed below:

- **Distractibility**: an inability to stay focused on the task at hand; easily distracted by external stimuli or internal thoughts and feelings.
- **Poor processing and judgment**: impaired decision making; responds to suggestibility rather than thinking things through; lack of clarity in making a decision
- **Executive function / dysfunction**: difficulty accessing working memory, setting priorities, planning, and initiating self-regulation without some kind of external organizer (like a parent telling you what to do).
- **Physical Restlessness**: Hyperactivity or feelings of agitation; excess energy with nowhere to go, especially when feeling bored or not engaged.
- **Mental Restlessness**: nonstop ideas; racing thoughts that make lots of connections to things that are irrelevant to the task at hand.
- **Poor performance under pressure**: can show up most on timed tasks like quizzes or exams.
- **Overwhelmed**: too many thoughts or stimuli that create anxiety or excessive worry; contributes to an inability to take any action or make a decision.
- **Rumination**: intense concentration on negative thoughts that interfere with efficient thinking; not able to turn it off and shift the focus to something else.

- **Procrastination**: constantly delaying choices to take action
- **Anger or temper**: difficulty managing intense feelings so they interfere with thinking clearly.
- **Lack of Impulse Control**: doing things quickly without considering the consequences; boredom and impatience contribute to acting impulsively
- **Lack of follow-through**: does not complete tasks that are started, especially in things that are not personally interesting.
- **Time insensitivity**: No concept of time; no frame of reference for determining how long it will take to do a particular task.
- **Black and white (all or nothing) thinking**; inhibits taking action and can ignite stronger feelings of perfectionism [I either do it perfectly or I won't do it at all]
- **Physical and emotional sensitivities**: Hypersensitivity to the environment; distracted by sights, sounds, temperature, order or disorder in surroundings.
- **Low self awareness and low self-esteem**: unaware of their own talents, interests, passions and desires.

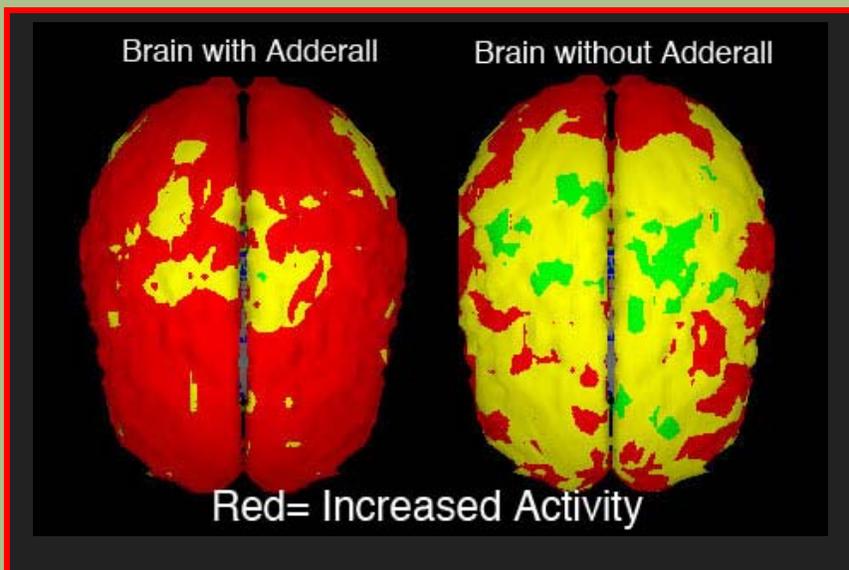
[Taken directly from: Giwerc, Davie; Luther, Barbara. 2005-2009. *Simply ADHD Coach Training Manual*, 4th edition. ADD Coach Academy]

How do ADD medications work?

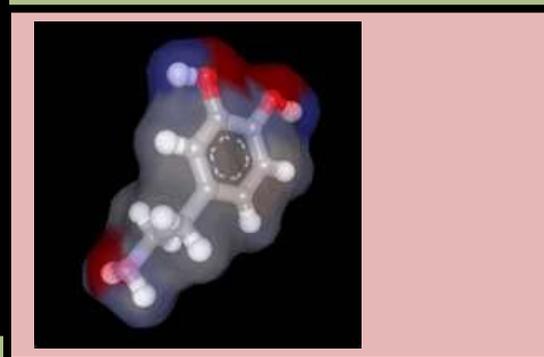
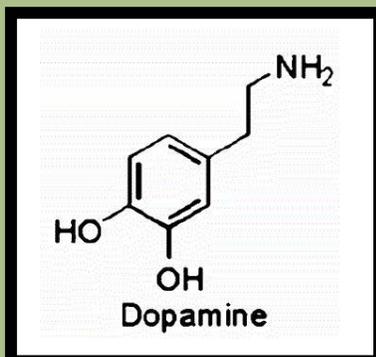


In the early days of medical treatment, tranquilizers were used to slow down the behavior of severely hyperactive children. Tranquilizers accomplished this by sedating the child. Their behavior became more manageable, but they still could not focus on complex tasks, pay attention for extended periods of time, or stay awake! But their hyperactive behavior was under control and that was the main goal at the time. Experimentation with different classes of medications on severely hyperactive children showed that stimulants (amphetamines) produced a “paradoxical effect”: it slowed them down. Kids with primary attention and hyperactivity problems became calmer, while kids with primary behavior disorders simply became more agitated. As the research progressed it was discovered that

stimulants not only calmed hyperactive kids, but it helped them focus attention and increase concentration. This class of medication was eventually tried on children whose primary problems were deficits in attention and concentration without the hyperactivity. It worked the same way on them. More sophisticated brain research using PET scans has shown that the neurotransmitters dopamine and norepinephrine are at lower levels in the nerve cells (neurons) of people who are diagnosed with ADD. Stimulant medications tell the neuron to secrete more dopamine into the space between the nerve cells where chemical messages are sent (called the synaptic cleft). The increased dopamine allows the brain to activate motivational circuits that make tasks more interesting and exciting, thereby increasing attention and concentration. Higher levels of dopamine also help suppress “background firing” of neurons that are not associated with performing the task at hand, thereby decreasing distractibility. [The U.S. Department of Energy’s Brookhaven National Laboratory study: <http://www.bnl.gov/bnlweb/pubaf/pr/2001/bnlpr011501a.html>]. So, the problem with hyperactive behavior and attention difficulties is not about having *too much energy* that is hard to control or focus. It is about *not having enough energy* to maintain consistent attention, reduce arousal, and filter out extraneous stimuli that become distractions.



<http://blog.sfgate.com/wchung/2011/09/01/misperceptions-about-adhd/>

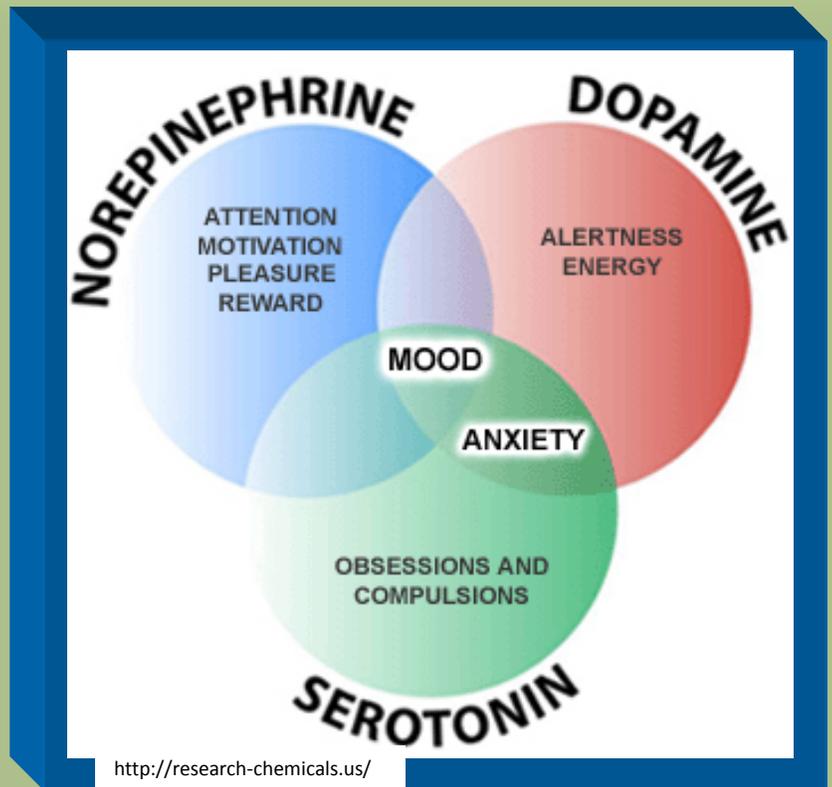


<http://www.adhdtexas.com/adhd-fact-fiction-and-beyond/what-is-adhd/>

Note to Self

Attention Deficit Disorder is really a complex process that involves a variety of factors. It is a combination of neurotransmitter levels in the brain and neuronal connections that affect and regulate mood, attention, concentration, emotion, focus and internal responses to environmental stimuli. What that boils down to is that there is no “easy fix.”

While medications can be very helpful, they will not fix the entire problem. The person with ADD still has to “do some work.” If used appropriately, medication can “tweak the system” and improve the symptoms associated with ADD. However, the person still has to learn new strategies for dealing with their individual attention, concentration and motivational differences. While there are some common strategies that ADD folks can use to manage their cognitive abilities, what works for one person may not work for another. We encourage students to try a variety of things. Remember, motivation is one of the first things affected in people with attention difficulties. “It’s hard to get started” and “It’s hard to stay focused” can be one in the same. It’s going to be challenging, but not impossible. Trying something new just once will probably not be enough. ADD folks are famous for thinking, “Well, that didn’t help.” Remember, motivation is always at issue and “practice still makes perfect.” When you try a new strategy keep doing it for an extended time period, like a week or two. The brain may not catch onto a new strategy right away so repeating the new behavior over and over again is a good foundation for permanent change. When you have practiced the behavior over time and it still does not help, stop doing it and find something else. Don’t waste time getting down on yourself. **Most people with ADD find a variety of strategies for different situations, not one strategy for every situation.** At IMSA, kids can do two things right away. They can make an appointment to see the counselor and the learning strategies specialist to talk about how and why they are struggling. This can lead to getting suggestions for changing, learning new strategies, or starting a more formal evaluation process for ADD.



Here are some other common tips for working with attention difficulties:

- ❖ Break down the day into small blocks of time: example: use breaks between classes to catch up on work or meet with a teacher; try to “be” in the class you are in and not worry about other classes or assignments.
- ❖ Break down work into smaller chunks: take a week to complete a problem set by working on it for 20 minutes a day instead of the night before; write papers in stages rather than during a single sitting.
- ❖ Use a timer: tells you when to take a break or switch subjects.
- ❖ Take frequent breaks: get up and walk; drink something; talk to someone.
- ❖ Use visual reminders: post-its, assignment notebooks, desk top icons.
- ❖ Connect with positive peers: motivated people can motivate you.
- ❖ Small healthy snacks: avoid excessive caffeine; it only makes you more tired later on.
- ❖ Maintaining attention in long classes or meetings
 - Bring an object with you – a small ball, pen and paper for doodling: helps in taking notes and writing down questions while listening.
- ❖ How to not miss important details in conversation or classes
 - Ask to make sure you are getting details correctly
 - Paraphrase what you are hearing
 - Ask the person to repeat
- ❖ Reducing distractions
 - Ear plugs, white noise, and music, use the study room, go to the IRC, ask kids to leave your room so you can study or study *with* friends if that helps you stay on track.
- ❖ Overcoming disorganization and forgetfulness
 - Develop the habit of using large calendars, day planners, PDA., daily to-do lists
 - Establish routines

**When in doubt,
try something
new or ask a
friend “what
works for you?”**

