

# **AUTISM SPECTRUM DISORDERS:** ***(AND OTHER CHILDHOOD DEVELOPMENTAL DISORDERS)***

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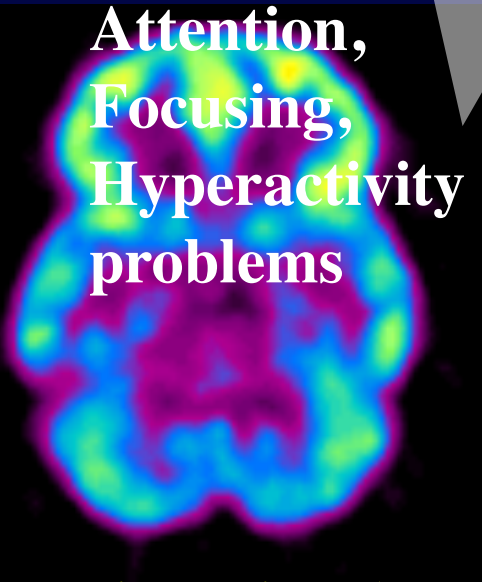
# Autism Spectrum Disorders



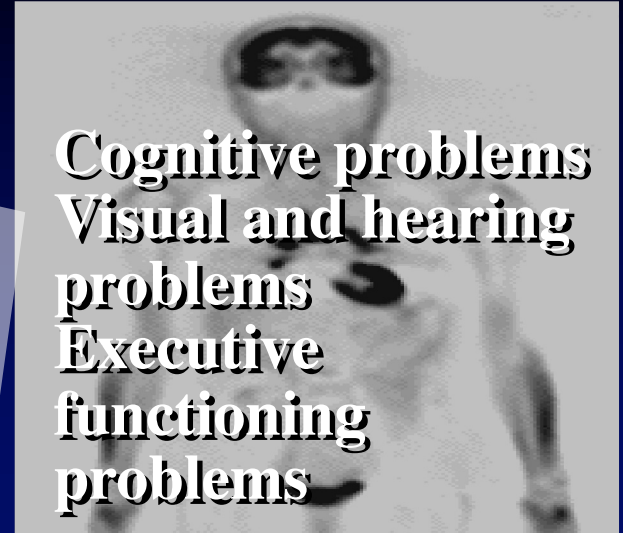
## Childhood Developmental Disorders

### Attention Deficit Hyperactivity Disorder

Attention,  
Focusing,  
Hyperactivity  
problems



### Fetal Alcohol Syndrome



Cognitive problems  
Visual and hearing  
problems  
Executive  
functioning  
problems

### Learning Disorders



"The advantage is that my brain sees and puts information in my head differently, more interestingly than if I saw like everyone else."

- Whoopi Goldberg on her Dyslexia

Dyslexia  
Dysgraphia  
Dyscalculia

Stuttering  
Delayed Speech

### Language Disorders



Psychiatrists and other clinicians rely on the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) to define autism and its symptoms. The DSM-5 definition recognizes two main symptom areas:

- Deficits in social communication and interaction
- Restricted, repetitive behaviors, interests, or activities

These symptoms appear early in a child's development—although diagnosis may occur later. Autism is diagnosed when symptoms cause developmental challenges that are not better explained by other conditions.

| 1 Month  | 3 Months  | 7 Months  |
|--|---|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Makes slight jerk movements</li> <li><input type="checkbox"/> Brings his or her hands within the range of eyes and mouth</li> <li><input type="checkbox"/> Turns his or hers head when called by a familiar sound and voice</li> <li><input type="checkbox"/> Focuses on near by objects (8-12 inches away)</li> <li><input type="checkbox"/> Responds to loud sounds</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Notices their hands by two months</li> <li><input type="checkbox"/> Smiles at the sound of a familiar voice by two months</li> <li><input type="checkbox"/> Follows moving objects with her eyes by 2-3 months</li> <li><input type="checkbox"/> Supports head when on stomach by 3 months</li> <li><input type="checkbox"/> Babbles by 3-4 months</li> <li><input type="checkbox"/> Attempts to imitate any of your sounds by 4 months</li> <li><input type="checkbox"/> Attentive to new faces, and is frightened by them</li> <li><input type="checkbox"/> Imitates some movements and facial expressions</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Rolls on to back and front</li> <li><input type="checkbox"/> Sits without support of the hands</li> <li><input type="checkbox"/> Supports weight on legs</li> <li><input type="checkbox"/> Responds to own name</li> <li><input type="checkbox"/> Babbles by 3-4 months</li> <li><input type="checkbox"/> Shows responses to “no”</li> <li><input type="checkbox"/> Responds to sound by making sounds</li> </ul>   |
| 15 Months  | 15-24 Months  | 2 years   |
| <ul style="list-style-type: none"> <li><input type="checkbox"/> Sits up without assistance</li> <li><input type="checkbox"/> Crawls</li> <li><input type="checkbox"/> Pulls self up to stand</li> <li><input type="checkbox"/> Walks by holding onto something</li> <li><input type="checkbox"/> Responds to “no”</li> <li><input type="checkbox"/> Uses simple gestures, such as shaking head for “no”</li> <li><input type="checkbox"/> Says “dada” and “mama”</li> <li><input type="checkbox"/> Tries to imitate words</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> says single words (15-18 months)</li> <li><input type="checkbox"/> Uses simple phrases (18-24 months)</li> <li><input type="checkbox"/> Plays pretend</li> <li><input type="checkbox"/> Walks alone</li> <li><input type="checkbox"/> Looks at objects when told to look</li> </ul>   | <ul style="list-style-type: none"> <li><input type="checkbox"/> Begins to run</li> <li><input type="checkbox"/> Walks up and down stairs holding onto support</li> <li><input type="checkbox"/> Scribbles spontaneously</li> <li><input type="checkbox"/> Recognizes names of familiar people, objects, and body parts</li> <li><input type="checkbox"/> Follows simple instructions</li> <li><input type="checkbox"/> Points at objects when told its name</li> <li><input type="checkbox"/> Enthusiastic around other children</li> </ul> |

# Signs and Symptoms of Autism Spectrum Disorder

Autism spectrum disorder (ASD) is a developmental disability caused by differences in the brain. People with ASD often have problems with social communication and interaction, and restricted or repetitive behaviors or interests. People with ASD may also have different ways of learning, moving, or paying attention. It is important to note that some people without ASD might also have some of these symptoms. But for people with ASD, these characteristics can make life very challenging.



# Examples of social communication and social interaction characteristics related to ASD can include:

- Avoids or does not keep eye contact
- Does not show facial expressions like happy, sad, angry, and surprised by 9 months of age
- Does not respond to name by 9 months of age
- Does not play simple interactive games like pat-a-cake by 12 months of age
- Uses few or no gestures by 12 months of age (for example, does not wave goodbye)
- Does not share interests with others by 15 months of age (for example, shows you an object that they like)
- Does not point to show you something interesting by 18 months of age
- Does not notice when others are hurt or upset by 24 months of age
- Does not notice other children and join them in play by 36 months of age
- Does not pretend to be something else, like a teacher or superhero, during play by 48 months of age
- Does not sing, dance, or act for you by 60 months of age



# Restrictive/Repetitive Behaviors and Interests

- Repeats words or phrases over and over (called echolalia)
- Plays with toys the same way every time
- Is focused on parts of objects (for example, wheels)
- Gets upset by minor changes
- Has obsessive interests
- Must follow certain routines
- Flaps hands, rocks body, or spins self in circles
- Has unusual reactions to the way things sound, smell, taste, look, or feel

# Most people with ASD have other related characteristics. These might include:

- Delayed language skills
- Delayed movement skills
- Delayed cognitive or learning skills
- Hyperactive, impulsive, and/or inattentive behavior
- Epilepsy or seizure disorder
- Unusual eating and sleeping habits
- Gastrointestinal issues (for example, constipation)
- Unusual mood or emotional reactions
- Anxiety, stress, or excessive worry
- Lack of fear or more fear than expected

It is important to note that children with ASD may not have all or any of the behaviors listed as examples here.



# THE THREE LEVELS OF AUTISM

1.



## LEVEL 1

### Requiring Support

- Lowest Level and “Highest Functioning”
- Difficulty initiating social interactions
- Decreasing interest in social interactions
- Struggling with switching between activities
- Organizing and planning problems

2.

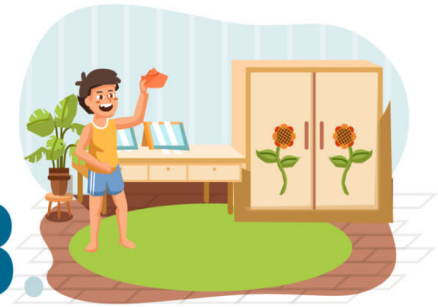


## LEVEL 2

### Requiring Substantial Support

- Noticeable social impairments even with support
- Problems with verbal and nonverbal social communication
- Struggling coping with change
- Changing focus or activities can cause distress
- Frequently appearing restrictive or repetitive behaviors

3.



## LEVEL 3

### Requiring Very Substantial Support

- Severe problems with verbal and nonverbal social communication
- Frequently appearing restrictive or repetitive behaviors that interfere with daily functioning in all aspects of life
- Changing focus or activities cause severe distress
- Extreme difficulty coping with change
- Rarely speaking logically and with few words

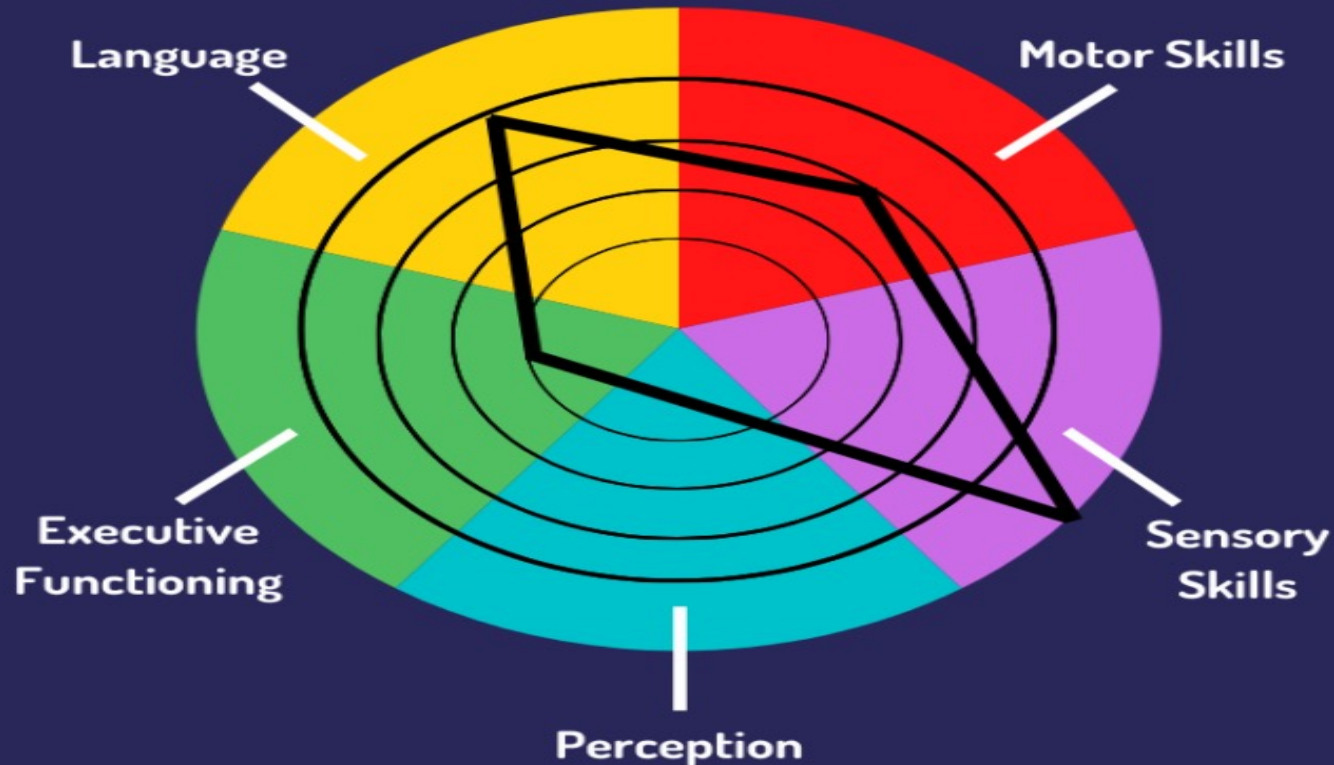
# THE AUTISM SPECTRUM

What people think the autism spectrum looks like:

Less  
Autistic

More  
Autistic

What it can actually look like:



# The Autism Spectrum

Child & Adolescent Psychological Evaluations, LLC

Matt Lowry, LPP

MattLowryLPP.com

## Proprioception

Sensing Body Position, Dancing,  
Walking on Tiptoes or Sides of Feet  
Rocking, Swaying, Spinning, Movement  
Sitting in Chairs in Odd Positions  
Movement Hunger

## Interoception

Internal Sense, Hunger, Thirst,  
Feeling Full, Going to the Bathroom,  
Sleep, Menstruation  
Awareness of Emotions, Alexithymia  
Hyper- / Hyposensitivity to Pain

## Exteroception

Sensing the Outside World,  
Hypersensitive, Hyposensitive  
Lights are too bright,  
noises are too loud,  
clothes are itchy

## Stims

Energy Regulation,  
Repetitive Movements,  
Sensory Seeking  
Fidgeting with Hands  
Making Sounds, Singing

## SPINs

SPeCIAL INterests,  
Intense Research,  
Information Hunger,  
Collections  
Love of Libraries, Museums,  
Animals, and Gardens

## Executive Functioning

Hyperfocus, Demand Avoidance,  
Hygiene, Process Complexity,  
Autistic Inertia, Difficulty Changing Tasks  
Expectation Sensitivity

## Emotional Intensity

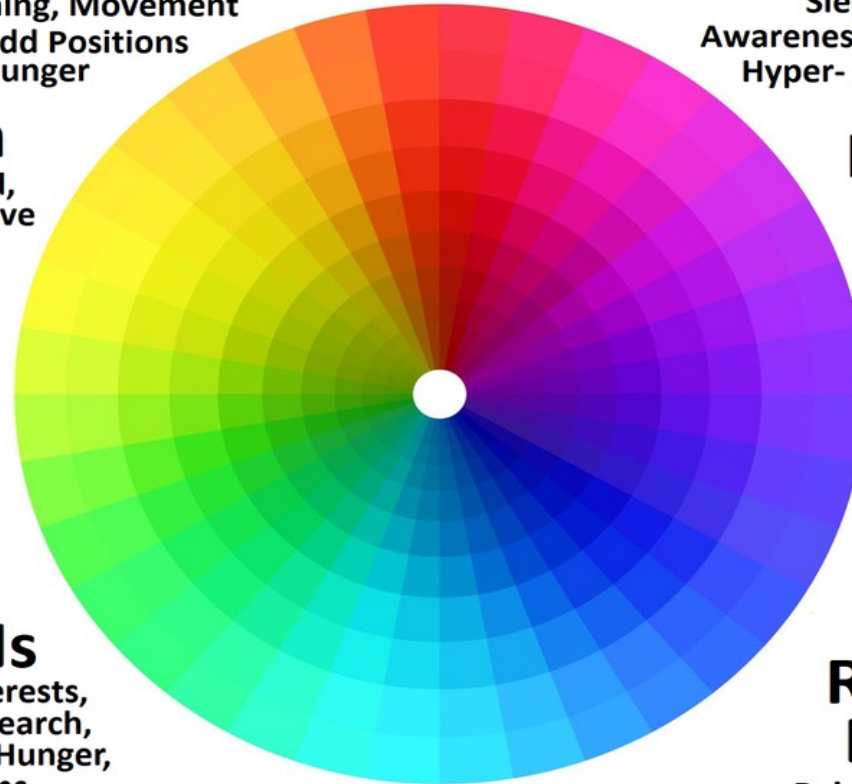
Meltdowns, Shutdowns, Overload,  
Situational Mutism, Hyporeactivity  
Justice Sensitivity

## Communication Differences

Echolalia, Palilalia, Echopraxia,  
Scripting, Eye Contact, Infodumps,  
Body Language,  
Tangential Conversation

## Relationship Differences

Rejection Sensitivity, Masking,  
Bonding through Special Interests





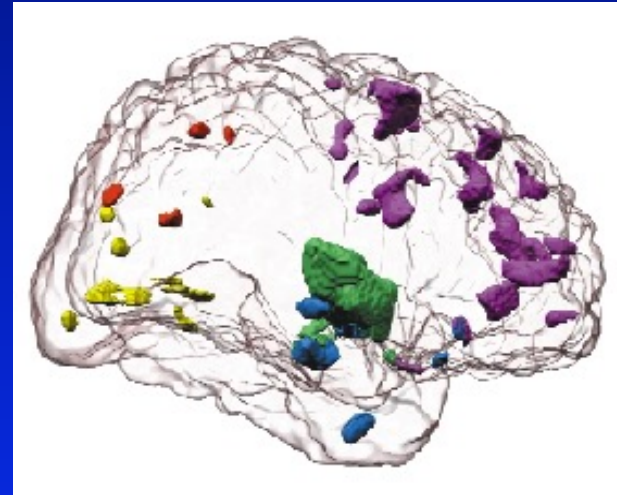
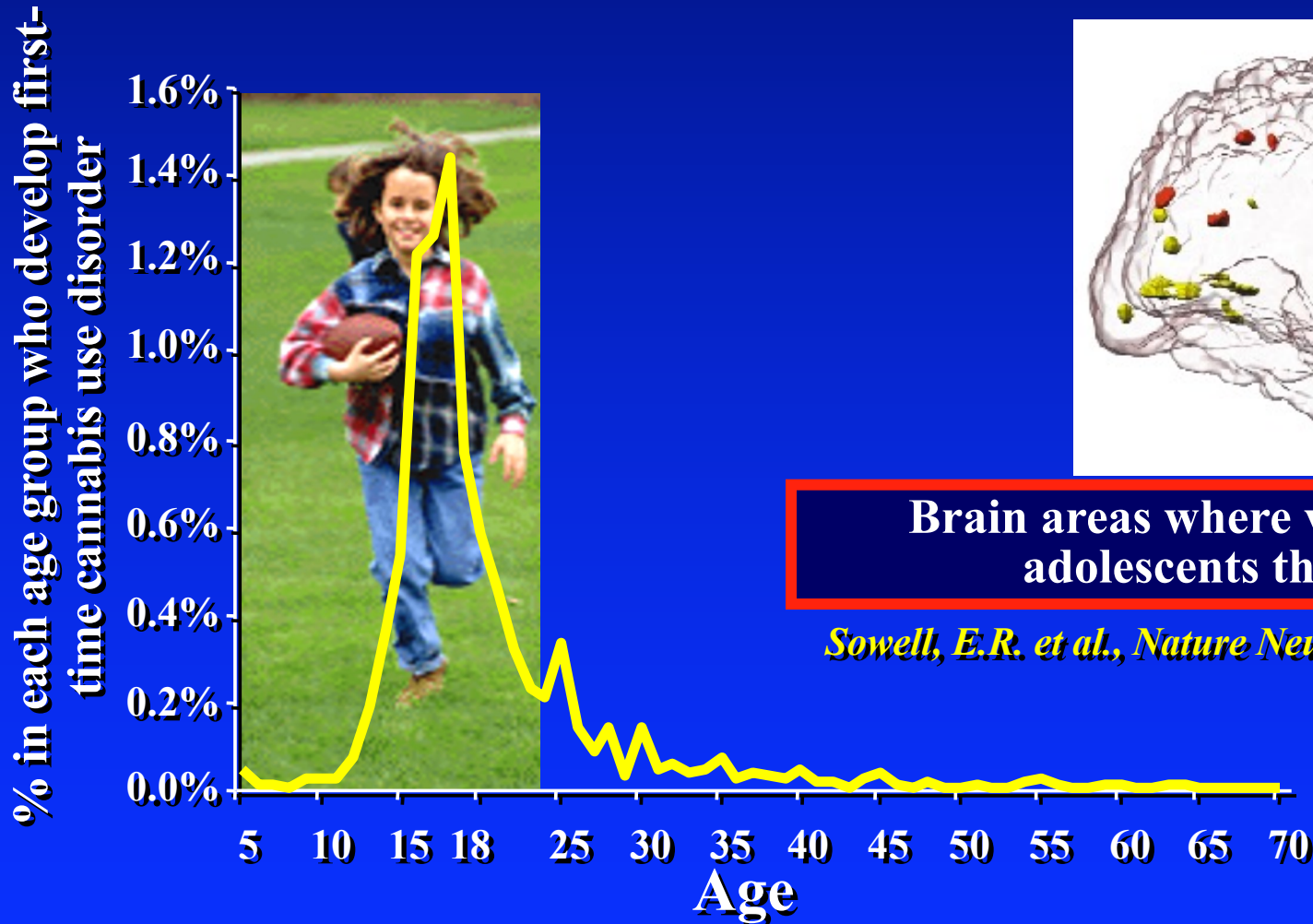
There are many types of treatments available.

These treatments generally can be broken down into the following categories, although some treatments involve more than one approach:

- Behavioral changing symptomatic behaviors – understanding the before/after
- Developmental improve specific developmental skills- Speech/Language Rx
- Educational address issues in the classroom highlighting consistency and visuals
- Social-Relational improving social skills – using groups and stories
- Pharmacological for co-occurring issues such as self harm, anxiety, depression
- Psychological e.g. Cognitive Behavioral Therapy (CBT) to manage issues
- Complementary and Alternative used to supplement Rx's – diets, mindfulness

# Mental Illness IS A DEVELOPMENTAL DISEASE

*Often starts in adolescence and childhood*



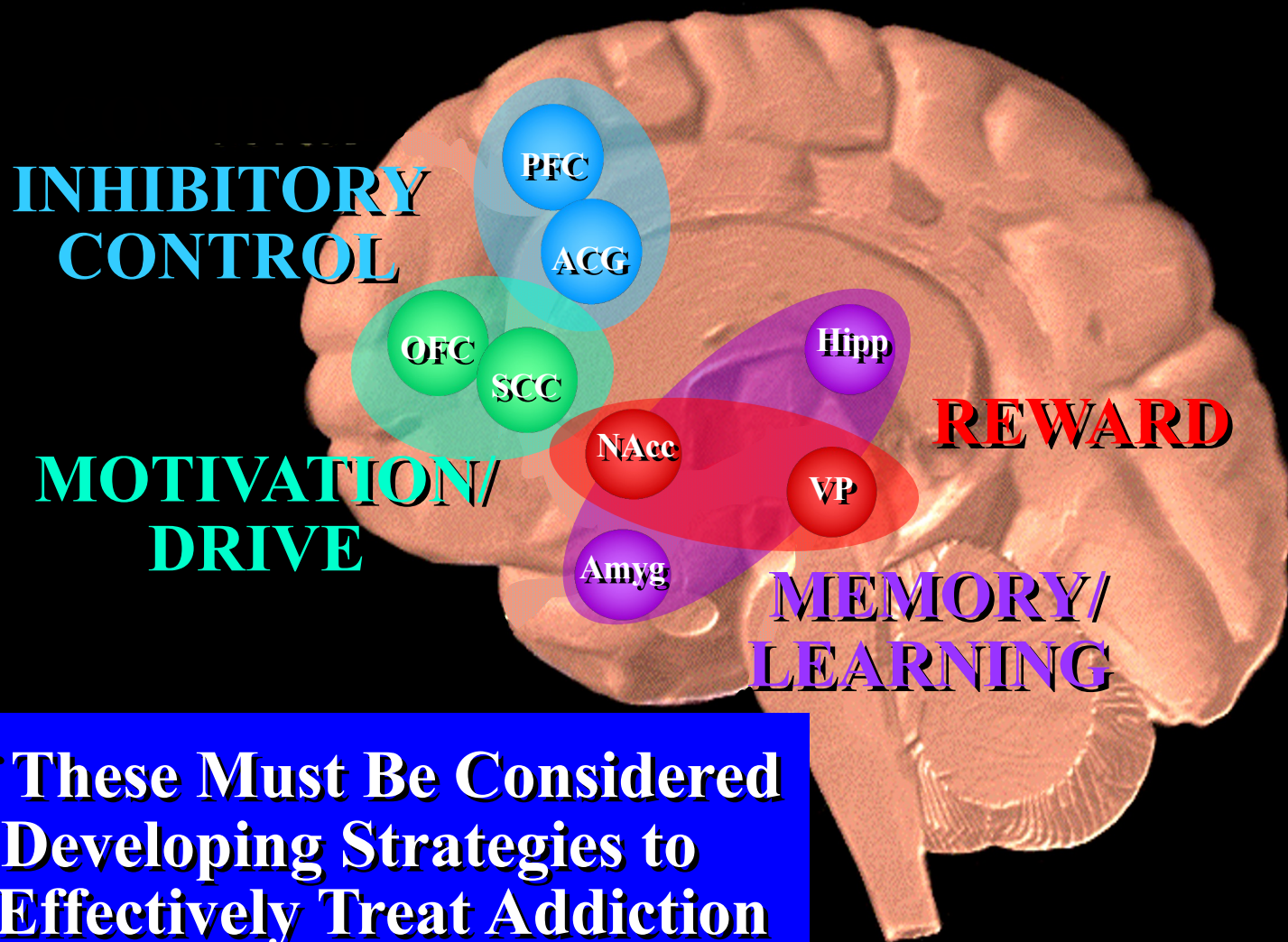
Brain areas where volumes are smaller in adolescents than young adults.

*Sowell, E.R. et al., Nature Neuroscience, 2: 859-861, 1999*

Age at cannabis use disorder as per DSM

*NIAAA National Epidemiologic Survey on Alcohol and Related Conditions, 2003*

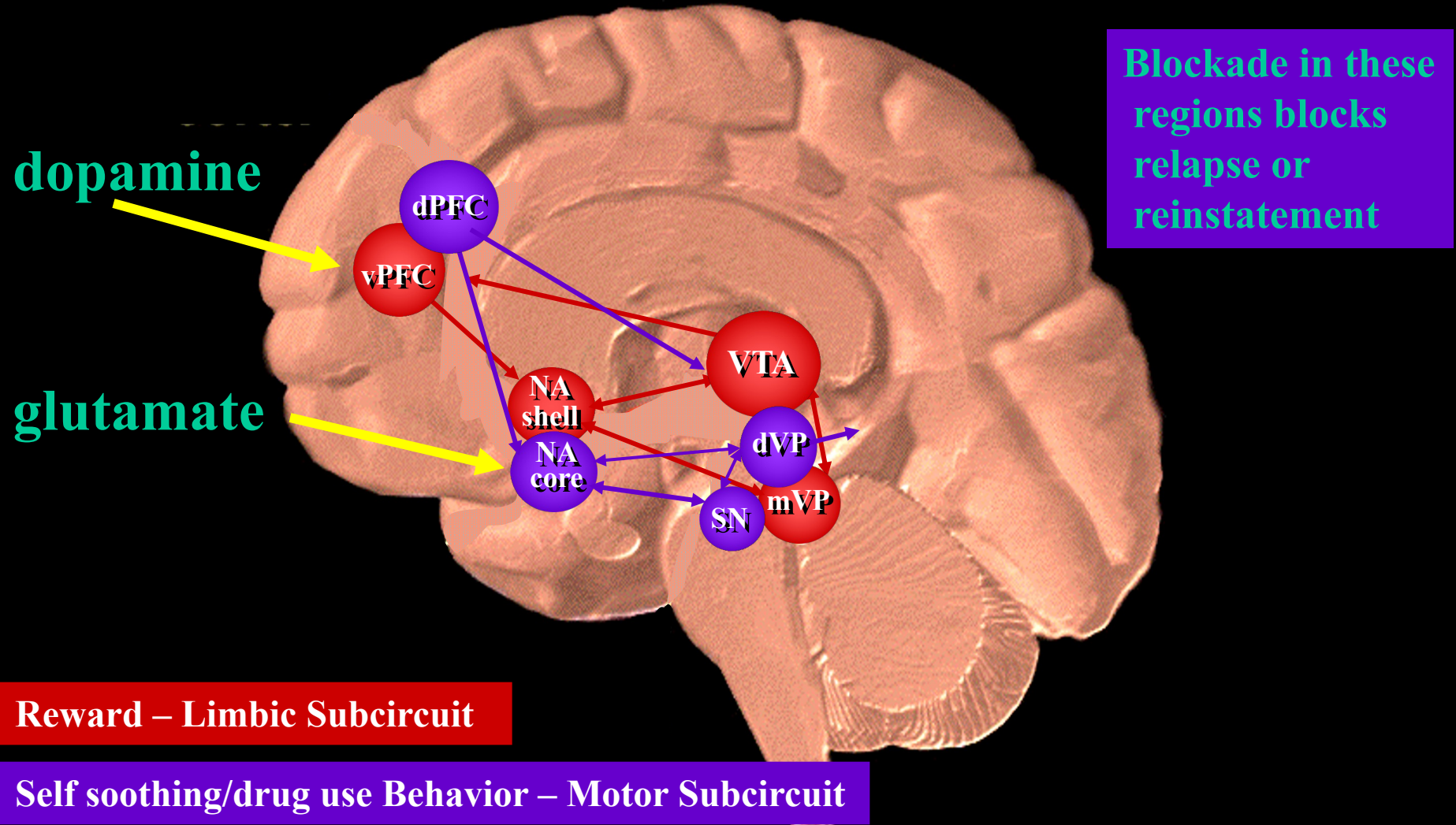
# Important Circuits During adolescence



**All of These Must Be Considered  
In Developing Strategies to  
Most Effectively Treat Addiction**

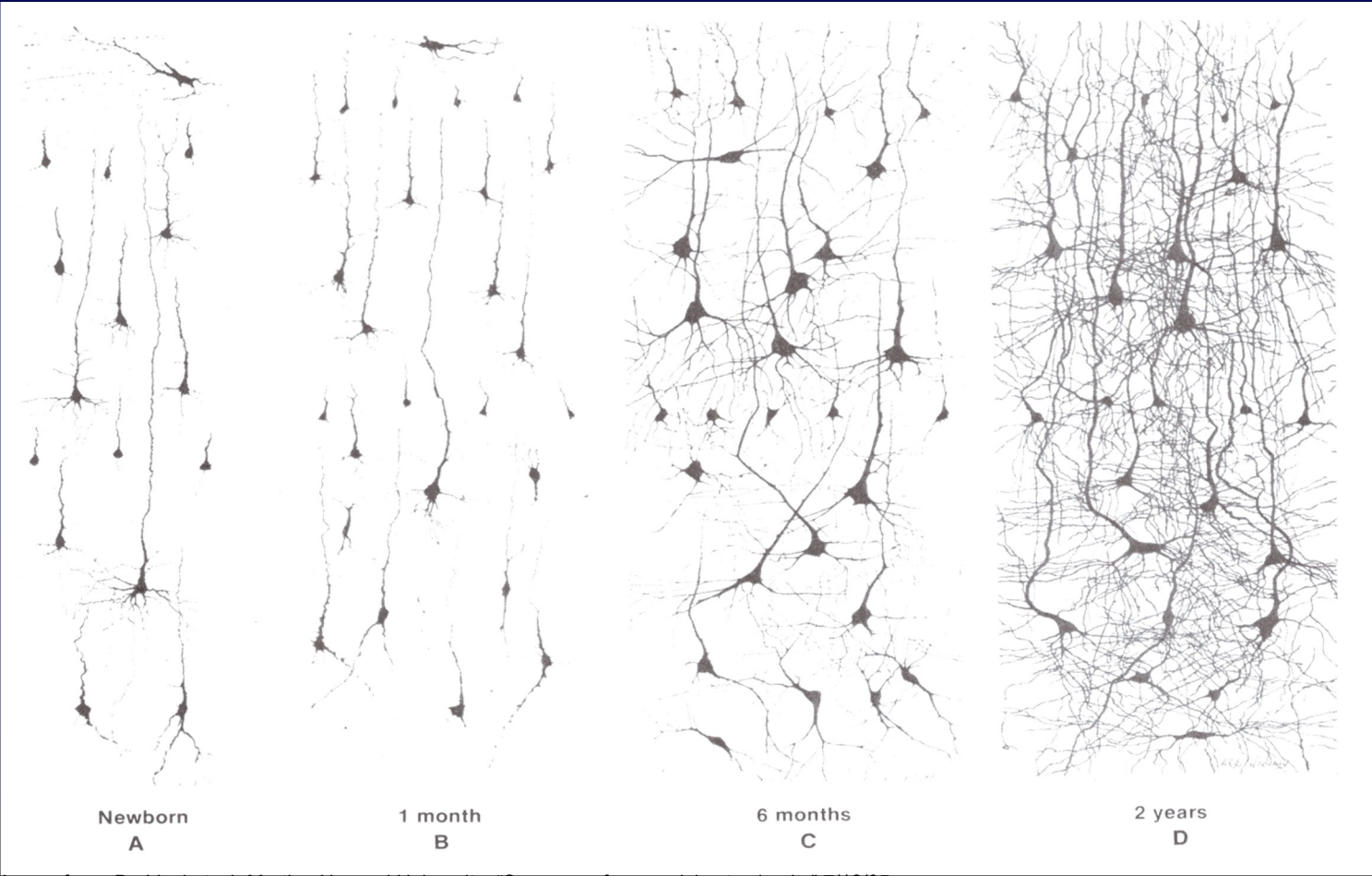


# Different Brain Circuitry Involved in Reward and Self Soothing Behavior



# Brain Development

At birth you had the majority of all the neurons that make up your brain! But your brain only weighed about 400grams. By now your brain weighs 1300-1400 grams. What accounts for the huge change in weight?



This picture shows how neurons change overtime by growing in size. Neurons continue to make new synapses (connections to other neurons) throughout your lifetime.

QuickTime™ and a TIFF (Uncompressed) decompressor are required to see this picture.



# The Teen

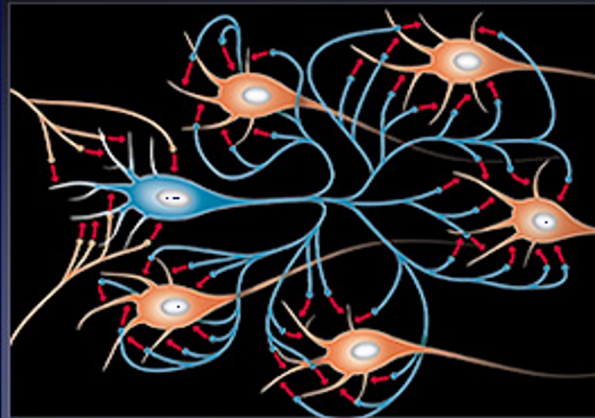
## Brain

**The high school students (14-18yr) brain are still growing and developing. In fact these years are not only crucial to development but explain why teenagers think “differently” than adults.**

What a teenager chooses to spend his/her time doing will affect what neuronal connections are kept. The pathways in the brain that are used are those that are kept. So someone who spend a lot of time in front of the T.V. or video games will be forging very different pathways than someone who is active or spend time reading, or is well balanced in activities

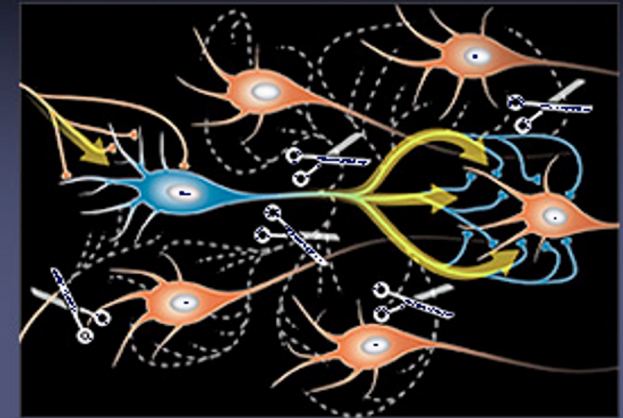
### Nerve Proliferation...

- By age 11 for girls and 12 for boys, the neurons in the front of the brain have formed thousands of new connections. Over the next few years most of these links will be pruned.



### ...and Pruning

- Those that are used and reinforced — the pathways involved in language, for example — will be strengthened, while the ones that aren't used will die out.



<http://www.time.com/time/covers/1101040510/brain/>

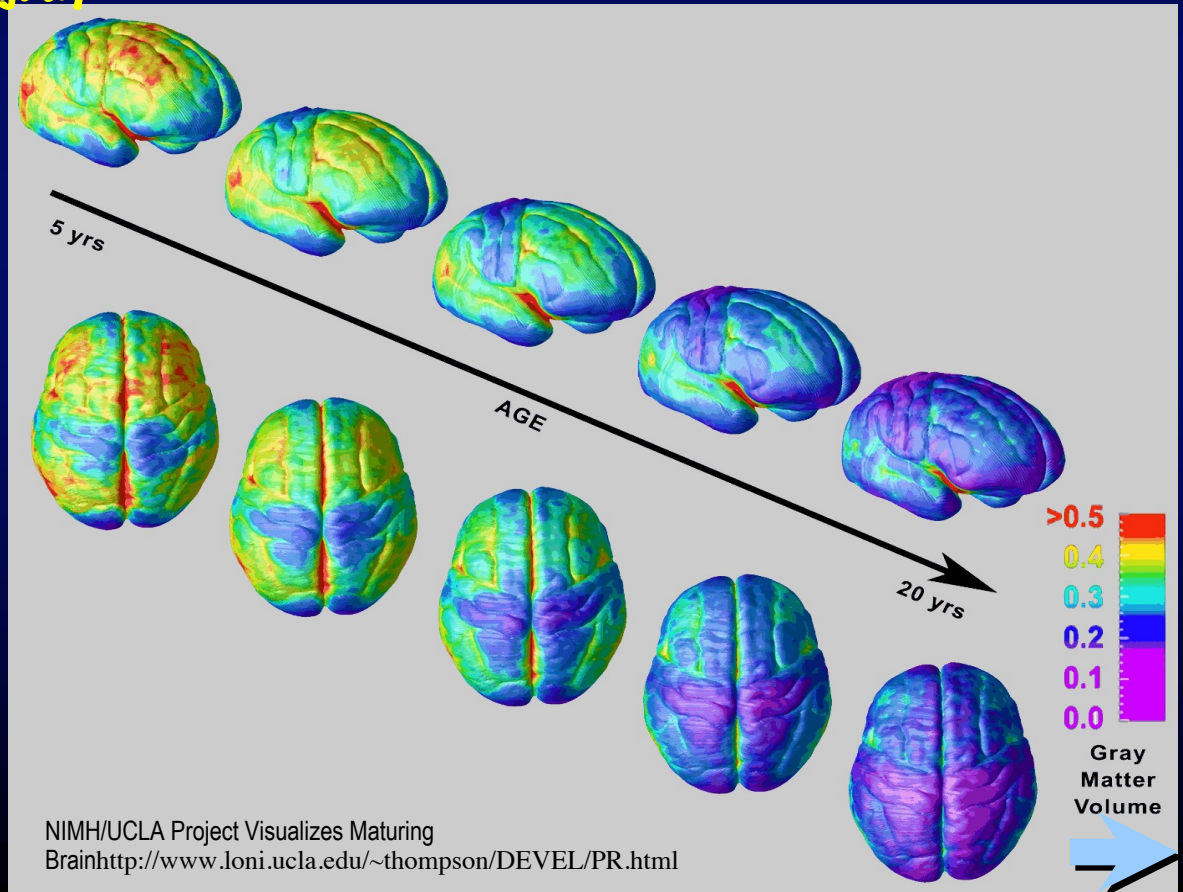
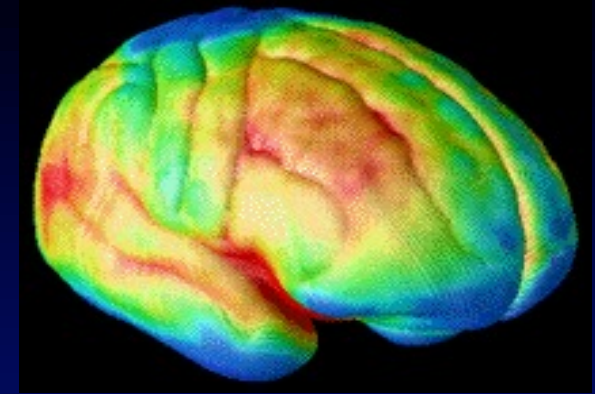




# The Teen

## Brain

These images show how the brain matures from the ages of five to 20. (Keep in mind each individual can be slightly different) The red/yellow colors indicate more gray matter while the blue(s) indicate less gray matter and a more mature brain.



Click here to find out what the big deal about gray matter is!

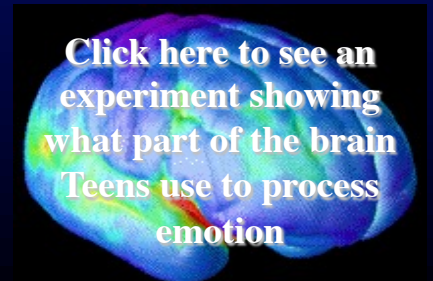


# The Teen

## Brain

**During the teen years several parts of the brain finish developing.**

- The frontal cortex goes through a growth period around 12 years, then continues to fine tune the connections. (pruning) This is the judgment area of the brain and does not finish developing until about 20 years of age.
- The Corpus Callosum - the fibers that connect the two sides of the brain thicken.
- Cerebellum - recently scientists have thought this area changes a lot during the teen years.
- The Amygdala - found near the Corpus Callosum develops quickly and is where emotions are centered. Many teens rely on this center before the frontal cortex is fully developed.



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