**Warning Signs of Developmental Disorders such as Autism & Bipolar Disorder**

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**Statistics**

**Prenatal developmental factors**

**Early warning signs**

**Treatment**

Autism  
Statistics

One in 88!

23% jump in autism rates from 2006 - 2008

78% increase since 2002

Dramatic data may be due to broader definitions of autism

Or earlier identification of ASD (Autism Spectrum Disorder)

* CDC, 10/2012

Causes:  
Prenatal developmental factors

Genetic mutation in 15-20% of cases

Risk factors:

* + Advanced age in fathers
  + Low birth weight or small for gestational age
  + Deficiency in folic acid intake 2-3 months before conception
  + Mother’s exposure to pesticides
  + Mother’s exposure to pollution
  + Obesity in Mother
  + Runs in families 3-10% increased risk

Early Brain Development

Brain imaging technology (MRI)

* + Marked differences in white matter = surround neurons & support signal transmission
  + These changes were found 6 months before any symptoms of ASD were seen

Early identification holds out hope for outcomes

So what do you look for?

Diagnosis &   
Assessment

Reliably diagnose ASD in children from 12 to 18 months

Look at social deficits

Any repetative actions?

Trajectory is not predictable

It is not a lifetime diagnosis!!!

* + If caught early and with treatment

Diagnosis &   
Assessment

However, some can regress

* + Even with treatment

Wait & See approach

Intervention is focal in early age

* + Again, catch them sooner and prognosis can improve
  + Infants & toddlers are not as diverse a group as are 10 year olds

What to do?  
Interventions

Early Start Denver Model

* + Structured teaching & relationship-based approach in the home
  + 18 – 30 months signficiantly improved in IQs, social interaction & language

LEAP: Leaerning Experiences & Alternative Program

* + For preschoolers & parents
  + Model mixes ADS kids with typical kids and structured protocol for teacher to enhance interactions between populations
  + “Joint attention” work = sharing in gazes, looks, pointing, coordinated interactions

A home- built on a strong foundation can withstand all weather

Overt Behaviors (e.g. the roof) indicate how things are “holding up”

Holes in the roof (overt behavior) are understood by examining the integrity of the levels below

Effective modifications & interventions are derived from our understanding of strengths & challenges of each level (domain) of development

A quick overview of “Heady” stuff

The Neuron: basic raw material ---nerve cells

100 Billion & migrate to form various parts of the brain

Bottom up, sequential growth pattern in place

Brainstem & midbrain develop fully 1st—autonomic functions

Last but not least, Limbic & Cortex—emotions & abstraction

Regions manage functions via neurotransmitters & hormones

Brain development = learning = creating/discarding neuron connections

Synapses = connections between neurons and most occur post-natal

Plasticity : The way the brain creates, enhances, and kills synapses based on environmental influences

By age 3 = 1,000 TRILLION synapses = more than we ever need

By adolescences we discard half = 500 trillion = what we carry thru life

A quick overview of “Heady” stuff

Prenatal exposure to toxins (e.g. EtOH, cannabis, lead):

* + - Can alter the cortex
    - Reduce neurons that are created
    - Affect chemical messengers used

Sensitive Periods

* + - Mind-boggling synaptic creation from birth to 3 years
    - At 3 years, pruning of synapses begins
    - Created, Activated, or Eliminated: Use it or lose it

What is my role, as   
a child care provider?

In infants and young toddlers:

* + - Lean them back & observe if they attempt to hold up head
    - Eye gaze
    - Cooing
    - Beginning signs of tracking movements with eyes
    - Emotional expressions
    - Remember—onset can come later
    - Babbling

What is my role, as a child care provider?

Toddlers to 3:

* + - Engaged with play with peers // play
    - Looks to where adult/other points
    - Nonverbal gestures increase
    - Emotional distancing
    - Remember identification early (aka, age 5) has better prognosis

Bipolar Disorder

To be or not to be in children?

* + - In children DSM-V may remove completely
    - Outgrow diagnosis, not possible but happen
    - More likely other disorders which involve emotional regulation
    - Wait & see—the jury is still out