ADHD as a hidden core in mental health presentations

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"ADHD is not a benign disorder. For those it afflicts, ADHD can cause devastating problems"

Barkley et al 2002 International Consensus Statement on ADHD

- Follow up studies suggest those with ADHD are more likely to;
  - Drop out of school (32-40 %)
  - Rarely complete college (5-10 %)
  - Have few or no friends (50-70%)
  - Engage in antisocial activities (40-50%)
  - Teenage pregnancy (40%)
  - Experience depression (20-30%)
  - Personality disorders (18-25%)
  - Use illicit drugs, drive fast, and have multiple car accidents

A discrete syndrome?

- ADHD is probably not a single discrete syndrome – best not viewed as a categorical diagnosis.
- There may be a number of forms and spectra of ADHD.
- Much overlap and comorbidity with other conditions.
- Nevertheless, a useful construct that is helpful in understanding common constellations of impaired attention, organisation, and impulse/affect regulation.

Comorbidity

- ADHD adults had significantly elevated scores on all dimensions of psychopathology of the SCL-90-R:
  - Somatic, obsessive-compulsive, interpersonal sensitivity, depression, hostility, anxiety, phobic, paranoia, psychoticism
- 80% of ADHD groups showed at least one other disorder – one third had at least three other disorders
- High comorbidity with dysthymia, depression, ODD, conduct disorder, alcohol and drug use.

- **Barkley et al 2008 ADHD in Adults. Guilford. New York.**

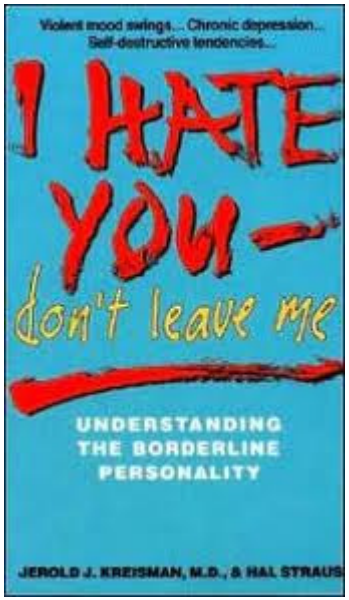
Mood dysregulation

- “Mood instability may often be the main presenting symptom of ADHD and may also be one of the more impairing features of the disorder .. a very high correlation between ADHD and mood instability”
- “Overlap with other mental health conditions including bipolar disorder and borderline personality”

- **Professor Richard Asherson: ADHD conference Sept 22-23 Savoy Place London.**

Increased risk for bipolar and BPD

- Adult ADHD shows a 6.2 times increased risk for bipolar disorder – and is associated with a more severe disease course
- In cluster B personality disorders, an increased prevalence of ADHD in childhood has been found: up to 65% in some studies
- **Sandra Kooij. ADHD conference. 22-23 Sept. Savoy Place. London**



Prevalence of ADHD in addiction

- A meta-analysis and meta-regression analysis summarising and analysing 29 studies on the prevalence of ADHD in populations of Substance Use Disorder patients – overall prevalence of 23.1 %

- **Guert van de Glind. ADHD conference 22-23 Sept Savoy Place London**

Similarities with Asperger's

- Both ADHD and Asperger's children may show the following features:

- Have difficulties mixing with other children
- Show no real fear of danger
- Be prone to tantrums and become easily distressed
- Be either hyperactive or extremely slow or lethargic
- Avoid eye contact
- Be very intelligent and have a high IQ
- Be hard to diagnose when very young
- Show problems with communication and social interaction
- Have deficiencies in coordination and fine motor skills
- Act impulsively
- Have very poor handwriting
- Show symptoms of anxiety
- Appear not to listen, even when spoken to directly

DSM-IV criteria

- **Inattention**:
- Fails to give close attention to detail
- Difficulty sustaining attention
- Does not seem to listen when spoken to
- Does not follow through on instructions – fails to finish
- Difficulty organising tasks and activities
- Avoids or dislikes tasks requiring sustained effort
- Often loses things
- Easily distracted
- Forgetful

DSM ctd:

- **Hyperactivity**
- Fidgets or squirms
- Often leaves seat in classroom
- Runs about inappropriately – in adults may be limited to subjective feeling of restlessness
- Difficulty engaging in leisure activities quietly
- Often ‘on the go’ – or ‘as if driven by a motor’
- Talks excessively

DSM ctd

- **Impulsivity**
- Blurts out answers before questions have been completed
- Difficulty awaiting turn
- Interrupts or intrudes on others – butts into conversations or games
- **Duration and pervasiveness**
- Symptoms present before 7 years of age
- Impairment in two or more settings
- Clinically significant impairment in social, academic, or occupational functioning

Adult ADHD

- Recognition of the disorder in adults became more widespread in the 1990's
- Longitudinal studies of children with ADHD and actual studies of large populations suggest a prevalence of around 5%

- **Source: Barkley et al. 2008. *ADHD in Adults. What the Science Says*. Guilford. New York.**

Common behavioural and cognitive features of people with ADHD

- 1: Gives up easily on tasks, assignments, and self-interests.

  2: Poor reality testing skills, and avoidant of reason or logic.

  3: Poorly developed skills of integration, interpolation, and extrapolation.

  4: Poor skills of attention and concentration, unable to sustain focus of interest.

  5: Difficulties in short term and long term memory acquisition and management.

  6: Difficulty in making up their mind, or making choices without undue anxiety.

  7: Poor planning abilities, unable to follow through consistently or complete tasks.

More features

- 8: Difficulty in differentiating between competing, extraneous stimulation.

  9: Easily distracted from tasks, conversations, or social interactions.

  10: Often over-stimulated and over-sensitized to their surroundings.

  11: Poor listening skills, often interrupts others, abruptly changes topic.

  12: Overly excitable, reactive and easily perseverating from one situation to another.

  13:Inability to manage emotional responses, temper tantrums.

  14: Easily frustrated, emotional labile/unstable leading to immediate changeable moods, behavioral inconsistencies

More features

- 15: Often hyperactive, fidgety, overwhelmed with feelings of restlessness.

  16: Inability to maintain appropriate social conduct, often disruptive in school.

  17: Experiences difficulty in following instructions and guidance.

  18: Impatient, continuing difficulties in delaying gratification.

  19: Overly demanding, may become self-destructive and aggressive.

  20: Poor sleep patterns, often not rested, angry or despondent upon rising.

9 symptoms that most strongly differentiate adults diagnosed with ADHD

1. Makes decisions impulsively
2. Difficulty stopping activities when should do so
3. Starts a project or task without reading or listening to directions carefully
4. Shows poor follow-through on promises or commitments to others
5. Has trouble doing things in the proper order or sequence
6. Drives with excessive speed
7. Prone to daydreaming when should concentrate
8. Has trouble planning ahead
9. Cannot persist if not interested.

[Barkley et al. 2008. ADHD in Adults. Guilford. New York]

Why is ADHD of interest to a psychotherapist?

- It is a vivid example of the interplay of the neurobiological and the psychological.
- There is a neurobiological impairment – which then interacts with the family, school, and social environment
- Multiple psychological traumas resulting from the interaction of temperament and environment
- Profound impacts on self-esteem, confidence.
- Vulnerability to panic, anxiety states, depression, and personality disorders

The helplessness of ADHD

- The person with ADHD feels ‘powered like a motor’ – compulsively driven.
- Hyperactive brain state – a proliferation of thoughts, anxieties, and impulses, with little capacity to exert control over these.
- Social perceptions may be askew because of a failure to grasp the overall context
- The person with ADHD may experience a continual sense of failure.

The chaotic mind

- The ADHD mind lacks coherence and order.
- Perceptual experience may be abnormal – less coherent – perhaps captured by a particular element or detail – lacking a normal gestalt.
- Emotions and impulse may intrude without the person understanding them.
- May panic if patterns of life are not as expected – resulting in a sense of chaos.
- The ensuing flooding of emotion may escalate the sense of chaos – resulting in mounting rage and panic

The adult with ADHD usually does not know what is wrong

- They know they cannot manage many ordinary aspects of life
- They know they tend to be disorganised, forgetful, late, erratic
- They know they get bored easily and find this aversive
- They know they can be impulsive.
- They know they get into fights and arguments
- They know they often experience life as tedious, painful, frustrating and unrewarding – and feel restless.
- They know they can feel depressed and anxious.
- THEY DO NOT KNOW THEY HAVE ADHD!

A proliferation of ‘beta elements’

- Applying psychoanalyst Wilfred R Bion’s notion of ‘beta elements’ – raw sensory and emotional data, unsuitable for thinking unless transformed by ‘alpha function’.
- The primitive mind attempts to expel these – as if the mind were a muscle.
- ADHD states of impulsivity and rage.
- The person with ADHD may feel persecuted by the beta element contents of the mind – may feel terrified by long dreams of being hunted or pursued

- Schredl M, Sartorius H. **Dream recall and dream content in children with attention deficit/hyperactivity disorder. Child Psychiatry Hum Dev. 2010 Apr;41(2):230-8**

“the patient who cannot dream cannot go to sleep and cannot wake up” [p 7]

- “If there are only beta-elements, which cannot be made unconscious, there can be no repression, suppression, or learning. This creates the impression the patient is incapable of discrimination. He cannot be unaware of any single sensory stimulus: yet such hypersensitivity is not contact with reality” [p 8]
- W.R. Bion. 1962 *Learning from Experience*. [reprinted in *Seven Servants*. 1977 Aronson]

Beta element states of mind

- “If the patient cannot ‘think’ with his thoughts, that is to say that he has thoughts but lacks the apparatus of ‘thinking’ which enables him to use his thoughts … the first result is an intensification of frustration …”
- **Bion, W.R. *Learning from Experience*. 1962 p 84.**
- Whilst Bion was writing about psychotic processes, his observations and ideas have relevance to ADHD and other ‘beta element’ states of mind.

Family interactions – the malignant escalation

- **A child who is prone to rage, seemingly 'strong willed', who does not respond 'normally' to typical sanctions and socialisation. When thwarted the child becomes more enraged. He or she seems to seek out confrontations.**
- **The child is hyperactive – does not sleep - wants everything he/she sees.**
- **The child becomes estranged from peers and internally from the family**
- **The parents do not understand why the child is 'naughty' and is criticised by teachers**
- **Parents become chronically exhausted, frustrated, angry, and despairing – and guilty.**
- **Parental criticism and punishment evokes more rage in the child, whose self-esteem plummets relentlessly.**
- **Parental helplessness – and adaptation to the child's temperament – are misperceived by others as the *cause* of the problem**

Role of the psychotherapist

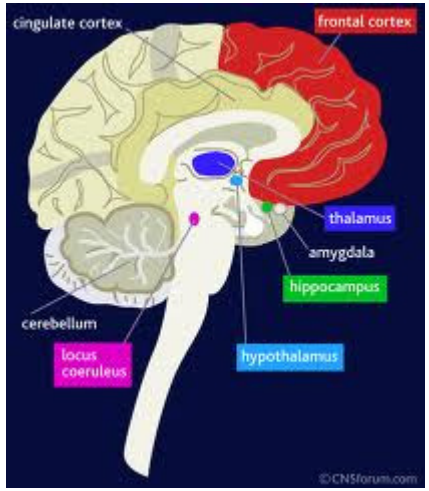
- Help the person come to an understanding of their own nature – their temperament – and the formative experiences that have shaped their personality
- Help the person find better ways of adapting to social reality, whilst meeting their own basic needs.
- Most texts emphasise CBT – skills teaching – but a broader psychodynamic approach also has relevance.

Psychotherapeutic targets

- Convey an empathic understanding of the nature of ADHD – and its impact on the family and the individual. This lifts the burden of devastatingly low self-esteem and self-hatred
- Target key psychological traumas, and patterns of adverse family experience, using EMDR or other processing techniques
- Teach methods of affect regulation and procedures for calming and becoming centred

Frontal dysfunction

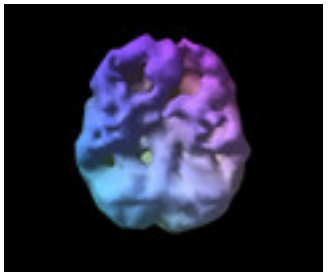
- Impaired functioning of the frontal executive part of the brain is thought to be the key problem – resulting in dysregulation of attention, behaviour, impulses, and emotions.



- **Benson, D. Frank. (1991). *The role of frontal dysfunction in Attention Deficit Hyperactivity Disorder.*Journal of Child Neurology, 6 (suppl.), S9-212.**

More effort – less focus

- Joel Lubar from the University of Tennessee demonstrated that when ADD children and teenagers performed a concentration task there was an increased amount of slow brain wave activity in their frontal lobes, instead of the usual increase in fast brain wave activity that was seen in the majority of the control group.



- A significant amount of dopamine is produced in the basal ganglia. Studies have demonstrated that the basal ganglia is smaller in people with ADD. It appears that when there is not enough dopamine available in the basal ganglia then there is not enough 'fuel' to drive the frontal lobes when they need to activate with concentration.
- www.amenclinics.com

Destructive stimulation-seeking

- Unconscious, addictive ‘brain-driven’ attempts to boost adrenaline and stimulate the frontal lobes.
- Arguments, drama, picking fights, emotional scenes, oppositional.
- Negative thoughts – thinking the worst – always complaining.
- Neutral thoughts do not affect brain activity; positive thoughts cool brain activity; negative thoughts boost activation in limbic areas (depression) and prefrontal cortex (increased focus).
- **George, M. S. et al. 1995. Brain activity during transient sadness and happiness in healthy women. *Am. J. Psychiatry*. 152(3) March. 341-51**

Deficit in reward

- Low dopamine levels
- More difficult to persist at a task that is otherwise boring
- Life is less inherently rewarding
- Stimulation and addictive sources of pleasure are sought

ADHD and Dopamine

Volkow ND, et al "Evaluating Dopamine Reward Pathway in ADHD: Clinical Implications" *JAMA* 2009; 302: 1084-91.

- PET brains scans of unmedicated adults with ADHD showed lower dopamine D2/D3 receptors in accumbens, caudate, midbrain, and hypothalamic regions – and lower dopamine transporter levels -significantly linked to attentional problems.
- Decreased brain activation in studies of reward-related processing in ADHD
- **Conclusion** A reduction in dopamine synaptic markers associated with symptoms of inattention was shown in the dopamine reward pathway of participants with ADHD.

Low dopamine associated with scores on personality measures

- Volkow et al measured dopamine availability in reward pathways, using PET scans – and correlated these with scores on the Multidimensional Personality Questionnaire – using a group of 45 adults with ADHD and 41 controls.
- The ADHD group had lower scores on the Achievement & Constraint (control of behaviour) scale and higher scores on the Negative Emotion scale – all correlating with lower dopamine.

- **Volkow, N.D. et al. 2010. Motivation deficit in ADHD is associated with dysfunction of the dopamine reward pathway. *Molecular Psychiatry* (2010), 1–8**

Potential for addiction

- Pressure for immediate gratification – thus respond to opportunities for immediate pleasure
- Use of drugs, alcohol, and other addictive activities (running, sex, dieting etc) as a means of regulating affect and the chaotic mind

Food colourings

- **Controversial – but a study published in the Lancet in 2007 found clear evidence of a link between children's ingestion of 6 food colourings, the preservative sodium benzoate, and hyperactivity.**

- **The European Commission ruled that any food products containing the "Southampton Six" (The contentious colourings are: sunset yellow FCF (E110), quinoline yellow (E104), carmoisine (E122), allura red (E129), tartrazine (E102) and ponceau 4R (E124)) must display warning labels on their packaging by 2010**

- **McCann D, Barrett A, Cooper A (November 2007). "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomized, double-blinded, placebo-controlled trial". Lancet 370 (9598): 1560–7.**

Pesticides

- A 2010 study found that pesticide exposure is strongly associated with an increased risk of ADHD in children.
- Researchers analyzed the levels of organophosphate residues in the urine of more than 1,100 children aged 8 to 15 years old, and found that those with the highest levels also had the highest incidence of ADHD
- a 35 percent increase in the odds of developing ADHD with every 10-fold increase in urinary concentration of the pesticide residues
- The effect was seen even at the low end of exposure: children who had any detectable, above-average level of pesticide metabolite in their urine were twice as likely as those with undetectable levels to record symptoms of ADHD

- **Bouchard, M. F. 2010 Attention-deficit/hyperactivity disorder and urinary metabolites of organophosphate pesticides. PEDIATRICS Volume 125, Number 6, June 2010 1267-1277 Published online May 17, 2010.**

A hidden core in other disorders?

- In addition to those people who have been given this primary diagnosis, consider the following:
  - People referred for ‘anger management’.
  - ‘Challenging and chaotic’ presentations.
  - ‘Emotionally unstable’ personality disorder
  - ‘Antisocial’ personality disorder
  - Some OCD presentations
  - Addictive personalities
  - Sensation or drama seeking
  - Anxiety states with ‘racing mind’.

Borderline Personality Disorder
[Emotionally Unstable PD]

- **A study of 120 female patients diagnosed and treated for BPD found ADHD in 70% of these.**

- **Philipsen A (September 2006). "Differential diagnosis and comorbidity of attention-deficit/hyperactivity disorder (ADHD) and borderline personality disorder (BPD) in adults". *European Archives of Psychiatry and Clinical Neuroscience* 256 Suppl 1: 42–6**

Impaired executive functions

Russell Barkley's model

- Mediated by prefrontal regions of brain
- Shift behaviour from control by the immediate environment to control by internally represented forms of information
- Key functions of behavioural inhibition:

1. inhibiting initial response;
2. stopping an ongoing response;
3. protecting the period of delay (and the self-directed responses that occur within it) from disruption by competing events and responses

Barkley's model of self-regulation

1. Behaviour by an individual directed at that individual rather than at the environmental event – self-directed action
2. Serves to change subsequent behaviour from what it would have been if acted on impulse
3. Future directed – changes likelihood of future rather than immediate outcome
4. Must have developed preference for larger long-term outcomes over smaller short-term outcomes
5. Time delays – capacity for cross temporal organisation of behavioural contingencies
6. Neuropsychological faculty to conjecture future, recall the past, and detect patterns among chains of events and behavioural contingencies – 'working memory'

‘Privatisation’ of behaviour

- To internalise or privatise behaviour to anticipate change and guide behaviour towards future goal.
- Private, covert forms of behaviour that at one time, in early child development and human evolution were entirely public and directed at managing others and the world.

1. Non-verbal working memory - privatisation of sensory-motor activities
2. Verbal working memory – self-directed private speech
3. Emotional self-regulation (affect, motivation, arousal)
4. Planning and generativity – internalisation of human play

Core failure of behavioural inhibition

- ADHD disrupts Executive Functions through its adverse effect on behavioural inhibition
- **By failing to inhibit responses to immediate events, those with ADHD are less able to activate and use their system of self-directed actions to anticipate a probably future**
- Cannot delay gratification and organise cross-temporal behavioural sequences to deal with a likely future.

Neurobiological dysregulation model – Hallowell & Ratey

- ADD is a syndrome of genetic origin where one's biological system has been rendered out of balance.
- This dysregulation impairs the ability to pay selective attention to one's surroundings
- "The world becomes a land without street signs, the individual a car in bad need of a tune up"

Hallowell and Ratey ctd.

- “Where one individual needs an oil change, the next needs spark plugs replaced. Where one individual is withdrawn and overwhelmed by stimuli, the next is hyperactive and can’t get enough stimuli. Where one is frequently anxious, the other is depressed. To compensate, each develops his or her own coping strategies that developmentally add to, or subtract from, the brain’s various subsystems. So Mr A becomes a stand-up comedian, and manic. Ms B becomes an architectural wizard with obsessive compulsive traits. Their offspring become a sculptor and a stunt pilot. None of them can balance their chequebook. And all of them wish they had more time in the day”

- **Hallowell, E.M. & Ratey, J.J. 1994. Driven to Distraction. Simon & Schuster. New York**

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Benefits of ADHD

- Availability of stimuli and thoughts from many sources leads to creativity!
- Impulsiveness can sometimes lead to novel solutions – freedom from protocols and accepted procedures
- Adventurous – not inhibited by convention
- Less restricted by social expectations (although can experience social anxiety)
- May be capable of *hyperfocus* – unusual intensity of persistence of activity in areas of interest.
- Slow brain waves may facilitate creativity, dream-like state – access to the unconscious.

Hunter-Farmer theory

- An evolutionary theory by Thom Hartman

- ADHD characteristics may have been of value in early nomadic conditions – adept at searching and seeking, taking risks and engaging in competition

- **Hartmann, Thom (2003). *The Edison gene: ADHD and the gift of the hunter child*. Rochester, Vt: Park Street Press**

Controversy

- **Barkley, R. et al. 2002. International consensus statement on ADHD [Clinical Child and Family Psychology Review 5 89-111**

- We, the undersigned consortium of international scientists, are deeply concerned about the periodic inaccurate portrayal of attention deficit hyperactivity disorder (ADHD) in media reports. This is a disorder with which we are all very familiar and toward which many of us have dedicated scientific studies if not entire careers. We fear that inaccurate stories rendering ADHD as myth, fraud, or benign condition may cause thousands of sufferers not to seek treatment for their disorder. It also leaves the public with a general sense that this disorder is not valid or real or consists of a rather trivial affliction.

Consensus statement ctd

- “To publish stories that ADHD is a fictitious disorder or merely a conflict between today’s Huckleberry Finns and their caregivers is tantamount to declaring the earth flat, the laws of gravity debatable, and the periodic table in chemistry a fraud”

Rebuttal of the consensus statement

- Timimi et al. (and 33 coendorsers) 2004. A critique of the international consensus statement on ADHD. [Clinical Child and Family Psychology Review. 7. No 1].

- “Why did a group of eminent psychiatrists and psychologists produce a consensus statement that seeks to forestall debate on the merits of the widespread diagnosis and drug treatment of attention deficit hyperactivity disorder (ADHD) (Barkley et al., 2002)? If the evidence is already that good then no statement is needed. However, the reality is that claims about ADHD being a genuine medical disorder and psychotropics being genuine correctives have been shaken by criticism. Not only is it completely counter to the spirit and practice of science to cease questioning the validity of ADHD as proposed by the consensus statement, there is an ethical and moral responsibility to do so.”

Social construction theory

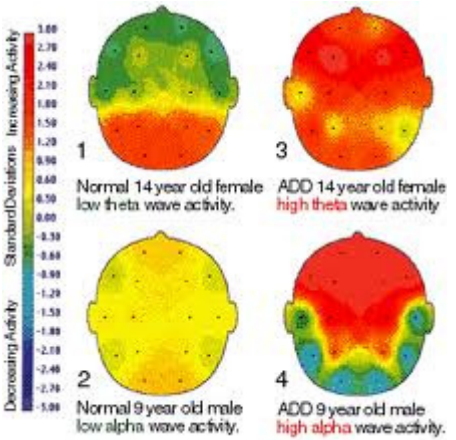
- Societies determine the line between normal and abnormal behaviour. Authorities within society, such as doctors, teachers, & parents, determine where that line is.
- E.g Thomas Szasz asserts that ADHD was “invented and not discovered”.
- **Szasz, Thomas Stephen (2001). Pharmacracy: medicine and politics in America. New York: Praeger. p. 212**

Heritability

- Twin studies suggest that ADHD is highly heritable.
- National Clinical Practice Guideline 2008 suggest genetics are a factor in about 75% of cases
- Other factors can be involved, including: complications and infections during pregnancy – excessive exposure to lead – trauma and head injuries – pesticides.

ADHD brain waves

- People with ADHD tend to have excessive slow waves (delta, slow theta, and sometimes excess alpha) in the frontal executive area – associated with difficulties controlling attention, behaviour and emotions.
- These phenomena can be shown with the QEEG [Quantitative electroencephalography]



- **Chabot, R. J., Merkin, Henry, Wood, L.M., Davenport, T.L., Serfontein, Gordon, *Sensitivity and Specificity of QEEG in Children with Attention Deficit or Specific Developmental Learning Disorders*,Clinical Electroencephalography, 1995; Vol. 27 (1) 26-33**

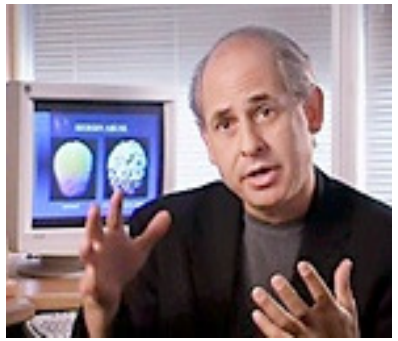
ADHD is like sleep deprivation

- Low alertness – not able to mobilise cognitive resources quickly.
- Like a state of sleep deprivation: slow reaction times; not alert; difficult to pay attention if not stimulated; speak or behave impulsively.
- Can only pay attention if something is really stimulating

- **[Nigg, J. 2006. What causes ADHD? Guilford Press. New York]**

Dr Daniel Amen's 6 types of ADD

- Based on SPECT brain scans
- **1. Classic ADHD with hyperactivity**: low prefrontal cortex activity.
- **Supplements**: multiple vitamin, NeuroEPA fish oil, L-tyrosine or DL-phenylalanine
- **Medications**: stimulant medications (such as Adderall, Concerta, Ritalin, or Dexedrine)



Dr Amen 2

- Type 2: Inattentive ADD
- **Symptoms**: primary ADD symptoms plus low energy and motivation, spacey, and internally preoccupied. Type 2 is diagnosed later in life, if at all. It is more common in girls. These are quiet kids and adults, often labeled lazy, unmotivated, and not that smart.
- **SPECT**: usually low prefrontal cortex and low cerebellar activity
- **Supplements**: multiple vitamin, NeuroEPA fish oil, L-tyrosine or DL-phenylalanine
- **Medications**: stimulant medications (such as Adderall, Concerta, Ritalin, or Dexedrine)

Dr Amen 3

- **Type 3: Overfocused ADD**
- **Symptoms**: primary ADD symptoms plus cognitive inflexibility, trouble shifting attention, stuck on negative thoughts or behaviours, worrying, holding grudges, argumentative, oppositional, and a need for sameness. Often seen in families with addiction problems or obsessive-compulsive tendencies.
- **SPECT**: usually high anterior cingulate activity plus low prefrontal cortex
- **Supplements**: multiple vitamin, NeurOmega fish oil, 5HTP, L-tryptophan or St. John's Wort plus L-tyrosine
- **Medications**: antidepressant Effexor, or a combination of an SSRI, like Prozac, and a stimulant

Dr Amen 4

- **Type 4: Temporal Lobe ADD**
- **Symptoms**: primary ADD symptoms plus a short fuse, misinterprets comments, periods of anxiety, headaches or abdominal pain, history of head injury, family history of rages, dark thoughts, memory problems, and struggles with reading. Often seen in families with learning or temper problems.

- **SPECT**: usually low temporal lobe activity plus low prefrontal cortex

- **Supplements**: multiple vitamin, NeurOmega fish oil, GABA or taurine for irritability, or Brain Vitale or NeuroMemory for memory issues.
- **Medications**: Stimulants, by themselves, usually make people with this type more irritable. Effectively treated with a combination of antiseizure medications (such as Neurontin) and stimulants.

Dr Amen 5

- **Type 5: Limbic ADD:**
- **Symptoms**: primary ADD symptoms plus chronic mild sadness, negativity, low energy, low self-esteem, irritability, social isolation, and poor appetite and sleep patterns. Stimulants, by themselves, usually cause problems with rebound or cause depressive symptoms.
- **SPECT**: usually high deep limbic activity plus low prefrontal cortex at rest and with concentration
- **Supplements**: multiple vitamin, NeurOmega fish oil, SAMe or DL-phenylalanine
- **Medications**: Stimulating antidepressants, such as Wellbutrin.

Dr Amen 6

- **Type 6: Ring of Fire ADD**
- **Symptoms**: primary ADD symptoms plus extreme moodiness, anger outbursts, oppositional, inflexibility, fast thoughts, excessive talking, and very sensitive to sounds and lights. I named it Ring of Fire after the intense ring of overactivity that I saw in the brains of affected people. This type is usually made much worse by stimulants.
- **SPECT**: marked overall increased activity across the cortex, may or may not have low prefrontal cortex activity
- **Supplements**: multiple vitamin, NeurOmega fish oil, NeuroLink (contains 5HTP, GABA and L-tyrosine)
- **Medications**: Anticonvulsants (such as Neurontin) and SSRI medication, or the use of the novel antipsychotic medications such as Risperdal or Zyprexa.
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Dr Amen's recommendations for all 6 types of ADD

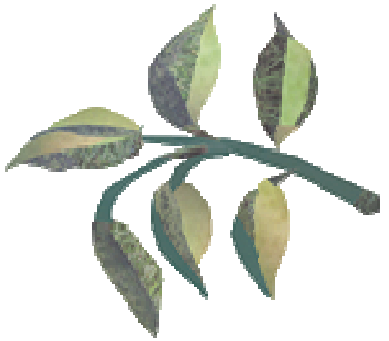
- Multivitamin each day – plus 2000-4000mg fish oil
- Eliminate caffeine
- Regular aerobic exercise
- Minimise TV and video games
- High protein, lower carbohydrate diet
- Avoid losing temper with people with ADHD – their low energy prefrontal cortex is stimulated by this, resulting in an addiction to drama and conflict

The key message to communicate to the person with ADHD

- It is not your fault - It is not your parent's fault - It is not anyone's fault
- You have struggled all your life with a difficult temperament
- Your brain works slightly differently from those who do not have these problems
- This is why you have found life so difficult
- There are others like you
- It is possible to understand and alleviate the problem

And to the family

- Coping with a child with ADHD is an impossible task. Whatever you do will be wrong.
- The aim is to survive – and that is what your child most needs.



- [Avoid trite platitudes about boundaries and structure – they are likely to have tried those already!]