





# AD/HD and co-existing conditions – an overview – with relevance to the Europe Declaration

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' AD/HD is the most extensively studied mental disorder in children, affecting an estimated 3 to 7 % of school-age children and an estimated 4% of adults across racial, ethnic and socioeconomic lines in Europe and worldwide.'

Europe declaration



- Attention deficit hyperactivity disorder (ADHD) is one of the most common and important childhood conditions.
- It frequently persists into adulthood from preschool years.
- Untreated it creates a vulnerability to significant educational, social and psychiatric and youth justice difficulties.
- However, **it can be successfully managed.**



# AD/HD

AD/HD is a complex neurobiological disorder characterised by developmentally inappropriate inattention a/o hyperactivity a/o impulsiveness, which is causing functional impairment in major life activities.

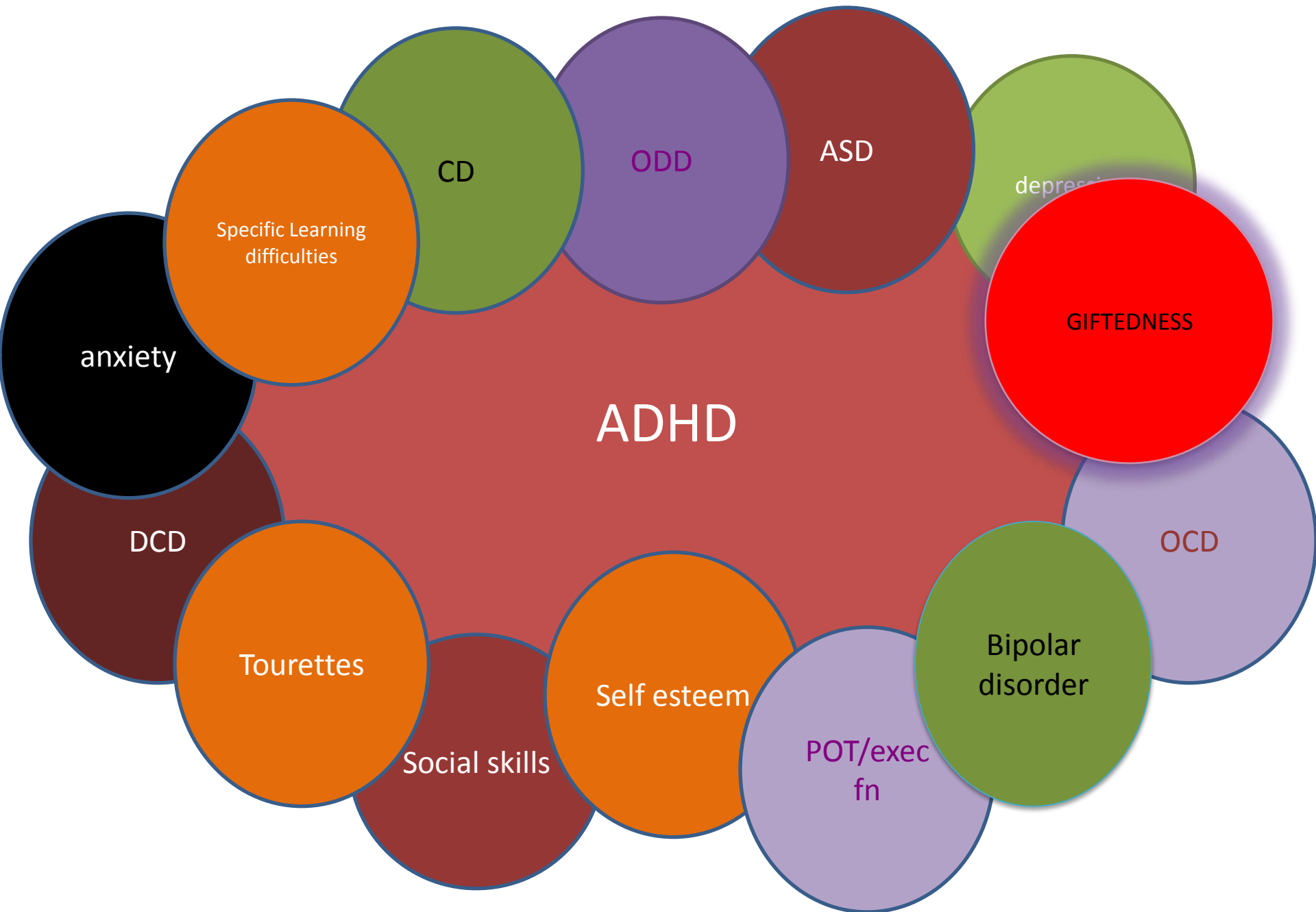




# AD/HD

- Problems with behavioural inhibition are generally considered to be the basis of AD/HD
- AD/HD is a complex neurobiological disorder. Researchers believe that people with AD/HD have a few structures within the brain that are smaller and their neurotransmitters - chemical messengers of the brain - do not work properly





ADHD

GIFTEDNESS

OCD

Bipolar  
disorder

POT/exec  
fn

Self esteem

Social skills

Tourettes

DCD

anxiety

Specific Learning  
difficulties

CD

ODD

ASD

depressi



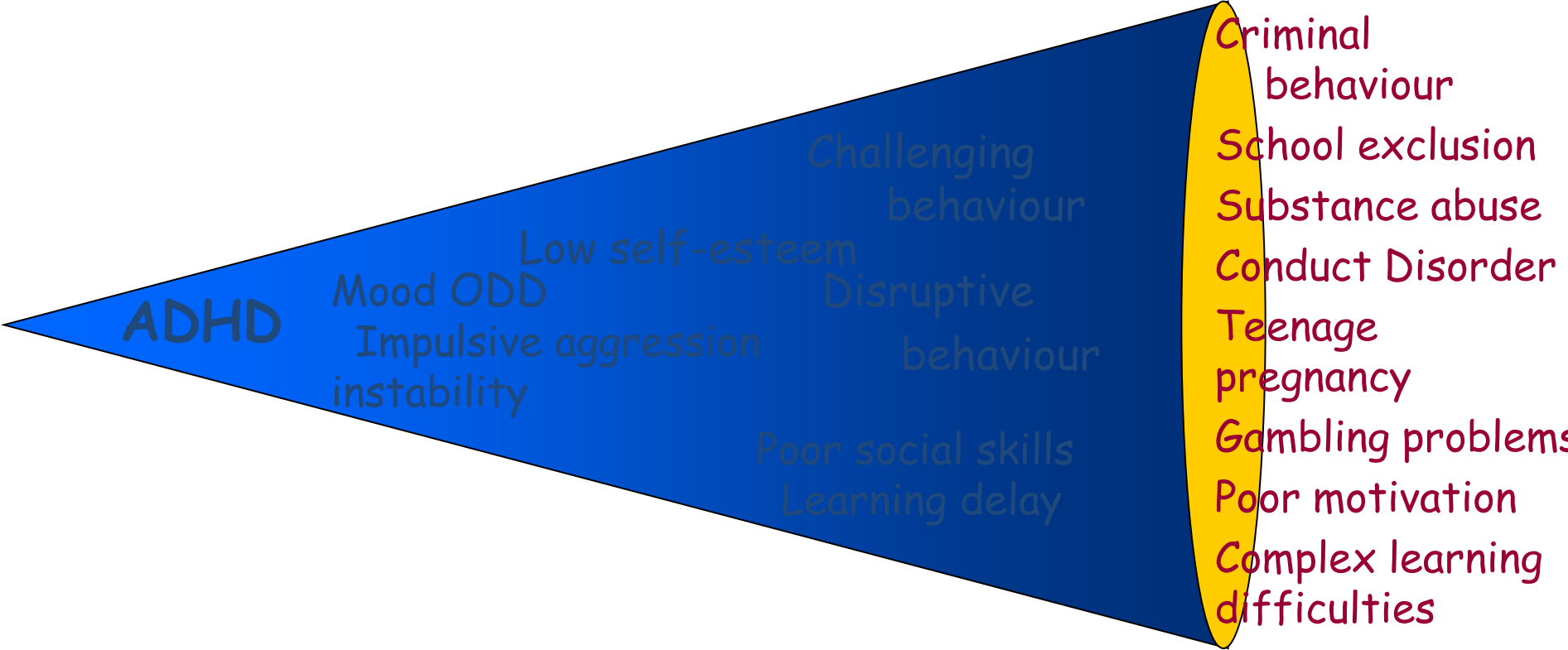
# Frequently Associated Difficulties

- Low self esteem
- Social skills
- Relationships
- Chronic boredom
- Time management
- Planning/organisation
- Lack of motivation
- Physical symptoms - headache etc.
- Variability
- Short term memory problems
- Learning delay
- Hypersensitivity
- Vulnerability to life's stresses
- Dogmatism
- Insatiability





# Likely Progression of Untreated AD/HD



Age: 6 → 10 → 14-16 →

# Gifted children with ADHD

- A much wider and more debilitating discrepancy between intellectual and social/emotional ages.
- Often more sensitive and self aware/can be overwhelmed by worries, that might not affect a more average child.
- Often thrive on complexity.
- Really don't do 'boring'.
- Inconsistent.
- 2-3+ years or more immature.
- Assessment must gauge their mix of strengths & weaknesses, and degree of IMPAIRMENT particularly self esteem.



**‘AD/HD can cause devastating consequences, including failure in school, the workplace, and family relationships, antisocial behaviour, encounters with the criminal justice system, interpersonal difficulties and substance abuse.’**

Europe declaration





"People with childhood AD/HD were significantly more likely to face a wide range of negative outcomes in adulthood, especially in the domains of education, economic status, housing, relationships, crime and health."

*Bassett-Grundy A & Butler N  
30 year British Cohort Study  
[www.ioe.ac.uk/bedfordgroup](http://www.ioe.ac.uk/bedfordgroup) 2004*



# Modifiable Risk Factors for Youth Crime

- Prenatal/perinatal.
- **Hyperactivity/impulsivity**
- Intelligence and attainment
- Parental supervision, discipline and attitude
- Broken home and separations
- Socio-economic deprivation
- Peer & school influences
- Community & situational influences

*Understanding and Preventing Youth Crime. Farrington 1996*

"Hyperactivity and impulsivity are among the most important personality or individual difference factors that predict later delinquency."

*Farrington 1996*

Criminology studies show that the early markers of later criminal activity are:

- Early Conduct Disorder
- Specific learning difficulties
- Hyperactivity/impulsivity
- Environmental factors

# Relevance of ADHD/CD to Youth Justice Systems

- People with AD/HD may need specific accommodations during cross-examining/police questioning, and in the youth's ability to participate meaningfully in the legal process.
- Consideration should be given to a comprehensive assessment for AD/HD and related conditions prior to sentencing if behaviour is suggestive of these conditions.
- Youth with AD/HD in prison may have difficulty coping with the environment, in coping with instructions from prison officers and with inter-personal relationships.



# Re-offending

- Offending rate reduced from **58%** to **10%** over two years by using a multiagency programme including medication
- If a person's ADHD is so disabling that he has entered the prison system, it is unlikely that he will be rehabilitated and not re-offend without medical treatment of his ADHD.

*T D McCallon - Colorado*

# Long Term Follow-up

## 20 year olds - Sexual Activity

	ADHD	Control
Number of sexual partners	18.5	6.5
Birth control used	76%	91%
Sexually transmitted disease	17%	4%
Pregnancies	38	4
Children sired	41	1
Children not in parental custody	52%	-

# ADHD & SUD

- 20-50% of adolescents with SUD have ADHD
- ADHD + DBD - increases SUD risk x 6
- Effective psychostimulant treatment reduces risk
- Stimulants not addictive in treating ADHD.
- SUD fuels antisocial behaviour.



# AD/HD in Parents

- Highly familial
- More marital breakdowns, poorer employment record, and more interpersonal problems.
- Impact on parenting, family functioning and the child. Parenting skills may need enhancing.
- Difficulty in implementing behavioural therapy programmes.



# Workplace AD/HD Issues

- Problems with close supervision
- Easy boredom
- Low frustration tolerance / difficulty in listening at meetings
- Procrastination - reacting to rather than planning events
- Careless mistakes / forgetting things not written down
- Poor time management

*Z Harris, LANC - 2004*



**'Scientific studies indicate that AD/HD in childhood is an indicator for a variety of mental disorders in adulthood, such as Personality Disorders, Depression, Anxiety and many stress related conditions that affect every area of a person's life.'**



# Bipolar Disorder



- Often coexists with AD/HD
- Also a condition of young children/ youth
- Often presents as 'severe ADHD'
- If untreated, poor prognosis - rages, depression, suicide, associated antisocial behaviour





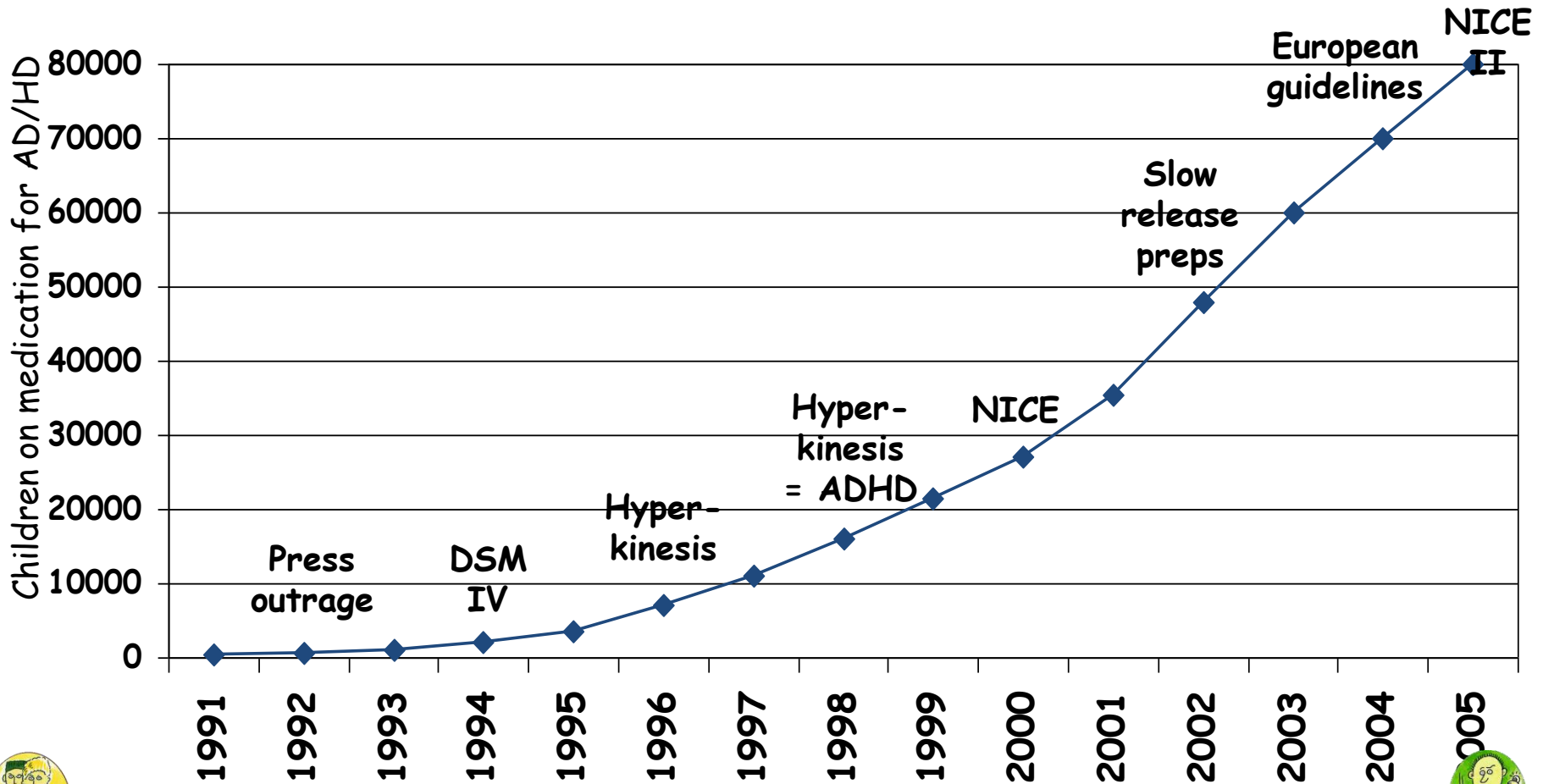
**‘The lack of understanding and public knowledge of AD/HD play a significant role in the overwhelming numbers of both children and adults who have undiagnosed and untreated AD/HD.’**







# Milestones in Awareness of AD/HD



"Research shows that those with AD/HD are biologically more impulsive and less self-regulated and that this has little to do with how proficient the child-rearing of parents has been, or how free of sugar and E-numbers their diet has been."

*Barkley 2005*



‘The lack of responsible reporting in the media and the dissemination of inaccurate and misleading information about AD/HD contributes to the large number of people who have not been diagnosed or treated for this condition despite the devastation that untreated AD/HD is causing in their lives and the lives of their loved ones.’





# Impact of AD/HD on Society

- Difficulties with employment, relationships, marriage, parenting, domestic violence.
- Increase in teenage pregnancy. High relevance to social services re issues in adoption, child abuse, challenging behaviour.
- More car accidents.
- Increased healthcare, education, youth justice and other costs.
- Associated early onset of disruptive behavioural disorder increases vulnerability to crime and substance abuse (x 4-6).





# Side effects - stimulants - long term

There are no adverse long term associations reported, either through the adverse drug reporting systems or peer review journals of the psychostimulants - despite their having been used for more than 50 years to treat millions of children with AD/HD.

*Prof D Coghill BMJ 2004*





**‘The lack of awareness, knowledge and stigma surrounding the condition have a particularly detrimental effect on the diagnosis and treatment of the disorder.’**





**‘Need for adequate education about this disorder for healthcare professionals across Europe so that they are capable of identifying, properly diagnosing and treating AD/HD in all its manifestations.’**

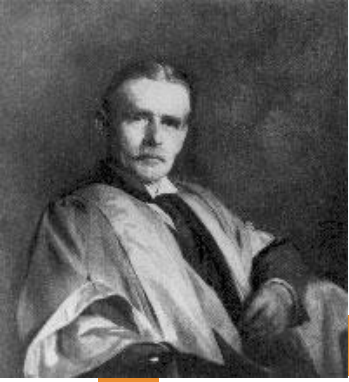


# NICE GUIDELINES - ADHD

- Validates ADHD as an important cause of educational, emotional and behavioural difficulty.
- Recognise the long term consequences of lack of effective management.
- Consider medication side effects to generally be mild and transient.
- Recognise the importance of adult transition.

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# Dr George Still

- First President of the British Paediatric Association.
- Wrote widely on a range of paediatric illnesses including Still's Disease etc.
- Gave a series of three lectures at the Royal College of Physicians in 1902 re '**some abnormal psychical conditions in children**' now regarded as one of the earliest descriptions of AD/HD.



**‘The need also for a comprehensive psycho-education programme for educators, school administrators and employers across Europe so that they have awareness and knowledge of the condition and can give the appropriate help to those in their care who are affected by this disorder’.**



"Information is the essential lynchpin in treatment. It doesn't matter what other strategies you use, the first thing you should do is ... educate about the disorder. Education brings about more change than any other psychosocial intervention."

*R Barkley - 1998*



**‘The now well-documented fact that the symptoms of AD/HD can be significantly reduced and the quality of life improved if a proper comprehensive diagnosis and multimodal treatment plan is carried out’**





# Management of AD/HD

- Recognise AD/HD as a chronic condition
- Early intervention important
- Minimise impairment, maximise the child's strengths
- Use evidence-based strategies - i.e. use behavioural a/o medication a/o neurofeedback & psycho-educational treatment as appropriate
- Implement behaviour/coaching/dietary/other interventions once medication is in place.





Teachers are extremely important in the management of a student with AD/HD. A positive teacher/student relationship, with an understanding of the student and of AD/HD, may lead to greatly improved educational and social functioning.





# School's Role in Supporting Pupils with AD/HD

- Provide information for initial assessment and monitoring management
- Understand that those with AD/HD have problems with neuro-circuitry and neurochemistry - that it is a biologically based, educational disability
- AD/HD is treatable but not curable
- Recognise it is an explanation for certain behaviours and difficulties - not an excuse





# AD/HD and Medication

- Medication puts a 'floor' into the situation, and initially treats the core ADHD symptoms.
- There should then be a 'flow-on' effect to improving self-esteem and social skills
- Other strategies, i.e. educational, social skills training and behavioural management, are then likely to be more effective







# AD/HD and Medication

- Experienced dosage and timing adjustments are critical to effective management.
- Clinical improvement to core symptoms seen in about 20 minutes of optimal dosage.
- Symptom improvement seen in 80-95% of cases.
- Duration of medication determined by regular monitoring.
- Careful explanation essential.





# Medication Options

- Methylphenidate
  - Ritalin 10mg/Equasym 5mg - 4 hours
  - Slow Release Ritalin 20mg - 6-8 hours
  - Equasym XL 10, 20 & 30mg modified release capsules - 6-9 hours
  - Concerta XL 18, 27 & 36mg - 'OROS' preparation - 10-12 hours
  - Medikinet XL modified release - 8-9 hours





# Medication Options (ctd)

- Atomoxetine - Strattera 10, 18, 25, 40, 60mg - 12-24 hours
- Dexamfetamine - Dexedrine 5mg
- Adderall XR 10, 20, 30mg - mixed amphetamine salts - 6-9 hours





# SIDE EFFECTS - Short Term

- Keep in perspective - risk/benefit
- Transient side effects may occur in approx. 10-20% of children treated.
  - Usually improved by dose/timing adjustment or medication change
- Common side effects include:
  - appetite suppression
  - stomach ache/headache
  - insomnia
  - tic exacerbation
  - behavioural rebound
  - transient subduing of personality



# Medication for ADHD / Conduct Disorder

- Stimulants can not only improve core ADHD symptoms, but also aggression-related behaviours, especially impulsive aggression.
- If not successful, additional anti-aggression medication may be necessary.
- A history of ADHD may need to be treated concomitant with substance abuse management.
- Careful management and monitoring essential, especially in the YJS group.



# • Attention Deficit/Hyperactivity Disorder (AD/HD)

## – Treatment

- EEG Biofeedback

- Evidence is developing continually.
- Lack of randomised controlled ‘scientific’ studies.
- However, Monastra et al. (2002) did a controlled group study.
  - » N = 100
  - » All pts received medication, parenting program, academic support.
  - » Half pts also opted to receive neurofeedback.
  - » Neurofeedback group showed improved behaviour, attention test scores, brain regulation – when off medication.
  - » This effect maintained 2 years later.
- Definite potential!

- Dr Neil Rutterford



“When a thing was new people said it was not true, later when it became obvious people said it was not important, and when its importance could not be denied, people said it was not new.”

*William James*  
*Philosopher 1842-1910*

