

# ADHD in Special Populations

David Dossetor Child Psychiatrist with a special interest in Intellectual Disability and Autism.

Special Populations?

A Euphemism for those with an Intellectual Disability,

or

Non-mainstream populations from whom we can all learn

Special Populations: children and adolescent with

Intellectual disability

Autistic Spectrum Disorder

Behavioural Phenotypes



Am I developmentally behind the mainstream  
or  
Do I have some special messages?

# A Historical Context of ADHD

- **1902 George Still**, described 20 children who were defiant, excessively emotional, passionate, lawless, spiteful, and had little inhibitory volition, three boys for every girl, troubling behaviors appeared before the age 8, raised in benign environments, with "good-enough" parenting. He speculated, there might be a *biological basis to the unbounded behavior, a genetically inherited proneness toward moral corruption.*
- 1917/18 Hyperkinetic Disorders was **an outcome of Encephalitis Lythargica in children affected**; adult more likely to develop parkinsonian symptoms
- 1934 Levin described “**organic drivenness**” from **perinatal hypoxia to prefrontal cortex blood supply** eg in measles;
- 1968 DSM added a new section for C&A in which included **Hyperkinetic reaction** of childhood or adolescence
- **1990s DSMIV/ICD10** By convention **ADHD is not diagnosed in presence of autism**, reflecting assumption it may be consequent to Autism or ID

# Current Context of ADHD

**A NSW judge has slammed doctors for creating a generation of Ritalin kids now committing violent crimes and coming before the courts.**

Judge Paul Conlon said attention deficit hyperactivity disorder (ADHD) was the most over-diagnosed condition in the community, with "naughty kids whacked" on to drugs like the powerful stimulant Ritalin.



Judge describes ADHD as the new spelling of DUMB

*Judiciary do not know how the mainstream of population live or have a simple view of developmental processes: “lack of moral fibre”?*

1/5 children are notified as “at risk” of abuse or neglect to DCSs by age of 15yrs.

Psychiatrist reports that 99/100 aboriginal teenagers in Juvenile Justice Detention feel better off inside than outside.

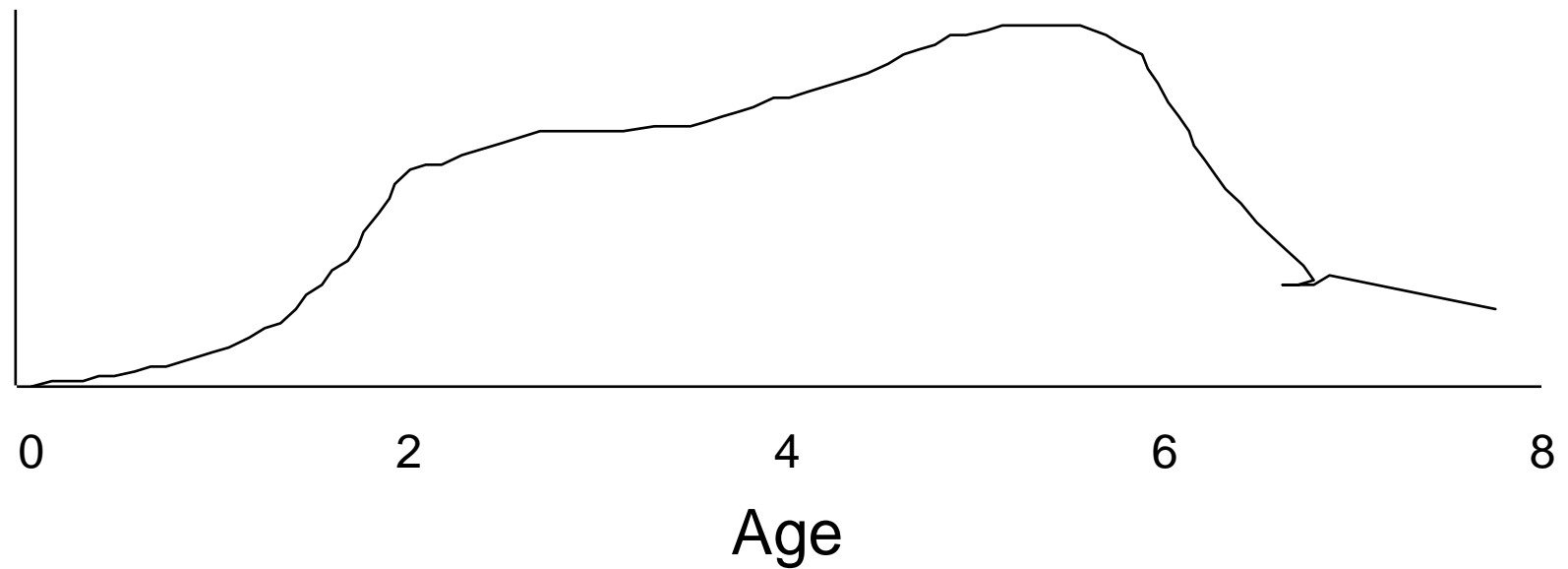
Those of Aboriginal background who have a period of JJ detention, 100% will have a prison sentence as an adult.

# Definition

ADHD/Hyperkinetic Disorders are characterised by a *developmentally* inappropriate degree of **inattention, impulsiveness** and **hyperactivity** evident in home, school and social situations varying with the degree of demand on the child and external controls and reinforcers.

# The context of normal development:

Activity level



- Teachers view of hyperactivity
- Poor peer relationships: the best predictor of adult morbidity

# Aetiology

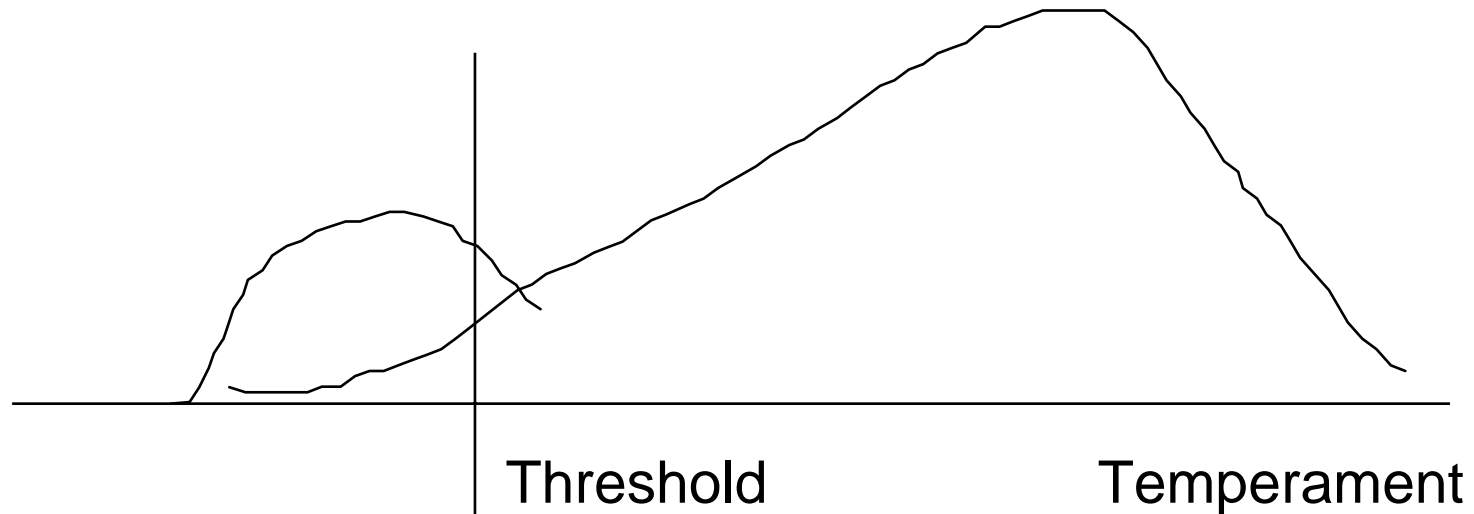
- Associated with risk factors:
  - Genetic 80% of the variance (in mainstream cases)
  - brain abnormality/damage
  - intellectual delay, learning problems
  - substance abuse in pregnancy
  - early environmental / stress factors
  - evidence of decreased activity of pre-frontal lobes on SPECT scan
  - related to dopamine transporter genes (D4 receptor gene)
- Implication of multiple causal contributors

## Nature/Nurture

Genetic studies of family behaviour shows that 30% of variance of parenting is influenced by the genetics of the child (Weiss et al)

How do parents attune to the needs of their special needs child?

# ADHD category or dimension? (Levy et al)



National Survey of Mental Health and Wellbeing Sample 1998;

Child and adolescent component: N= 4,500 4-17 y.o.

14% had at least one mental health problem on CBCL

**11.2% ADHD**

3.7% Depressive disorder

3.0% Conduct disorder

Most have more than one disorder

1% prescribed stimulants

•25% of special school attenders (USA)

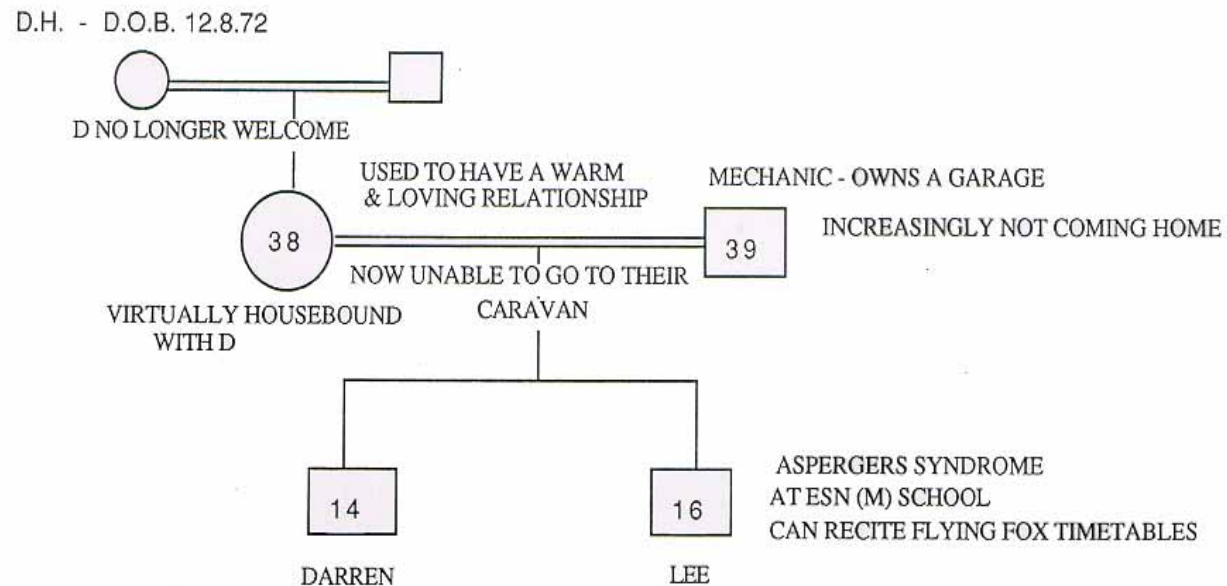
# Developmentally Supportive Treatments

- 1970s: In Autism behavioural intervention works better than talking therapies: eg teaching a child to sit still as a prerequisite for concentration (Rutter & Bartak), precursor of Applied behaviour analysis.
- Practical Strategies: Teaching calmness, stillness, sense of time, self monitoring, concentration, organisation and planning .
  - What am I doing now?
  - Am I sitting in the right place?
  - Am I doing what the class is doing?
  - What do I need to work on?
  - What needs to be organised for the next event?
    - 5 minute prompts
    - Fading from external prompts (teacher/parent) to self checking
    - Using timers and visual charts

# The Myths of Diagnostic Overshadowing in Developmental Neuropsychiatry

- Examples:
  - Because babies can't tell you, therefore they don't experience pain.
  - Because institutionalisation can lead to suboptimal care, then all emotional and behavioural problems will be relieved by community care
  - Autism was originally considered Childhood Schizophrenia
  - Depression doesn't occur in those with intellectual disability
  - Autism doesn't occur in those with an intellectual disability
  - One should only apply and single ICD diagnosis to explain psychiatric symptoms.
  - ADHD/Hyperkinetic Disorder shouldn't be diagnosed in Autism/PDD

# The Challenge of Differential Diagnosis



"NORMAL DEVELOPMENT" TILL 18 MONTHS OLD AND THEN NONE SINCE,  
COMPLEX EPILEPSY + CONTROLLED WITH MULTIPLE DRUGS  
INCREASING ACTIVITY OVER THE LAST YEAR

AUGUST 86 - REFERRED FOR HYPOACTIVITY, RESTLESSNESS, SLEEPLESSNESS, SOME AGGRESSIVENESS, UNCONTROLLABLE  
LOSS OF SOME ABILITIES

OCTOBER 86 - 4 WEEKS OF HYPERACTIVITY, REDUCED APPETITE AND WEIGHT LOSS.

OTHER PROBLEMS - LEE - MISERY, TRUANTING AND AVOIDANCE OF THE FAMILY  
MATERNAL DEPRESSION AND ISOLATION  
LACK OF LIMIT SETTING, EXCESSIVE RESPONSE TO D'S BEHAVIOURS  
MARITAL PROBLEMS

# The Working Diagnosis

- 1. Hyperactivity with features of emotional and conduct disorder;**  
*(Child Psychiatric Model)*
- 2. Manic Depressive Disorder;** *(Adult Psychiatric Model)*
- 3. Lennox Gastault Syndrome;** *(Neuropsychiatric Model)*
- 4. Adolescent Turmoil;** *(Chronological Age Model)*
- 5. Difficulties of developmental toddlerhood;**  
*(Developmental Age Model)*
- 6. Atypical psychosis of Chronic Organic Personality;**  
*(DSM-III-R Organic “dustbin” Labels)*
- 7. Overactivity with stereotyped movements in severely retarded children;**  
*(New ICD-10 category)*

# **Multi-modal approach to treatment**

- 1. Behavioural treatment and limit setting**
- 2. Marital counselling and work on parental feelings**
- 3. Night sedation and Thioridazine**
- 4. A two week inpatient assessment including a trial of Lithium (also treated with Carbamazepine or Valporate for Epilepsy)**

## **Outcome:**

**Admitted to a Social Services Care Hostel**

# **Process for Improvement**

- 1. Clear communication and strict limit setting.**
- 2. Space in which to express his energy and activity.**
- 3. A peer group culture of adolescents with developmental disability.**

# Psychiatric Diagnosis

*Diagnostic classifications:* - A purposeful system with limitations  
- Multi-aetiological

*Formulation:* a weaving together of medical concepts of general medicine, neurology, developmental phenomenology and life stress / social factors.

- Psychiatric phenomenology may not be reliable - depending on developmental age of <7 years or IQ of <50
- Problems of atypical symptoms such as stereotypies and SIB and atypical population.
- The correlation between behaviour and subjective mental phenomenon.
- Do psychiatric disorders have validity in a non mainstream population?
- What is the difference between a developmental disorder and a psychiatric disorder?

# Psychiatric Diagnosis

**Other heuristic concepts for understanding behaviour:**

■ **Neuroanatomical models**     eg. **Frontal lobe syndrome**

■ **Neuropsychological models**

– eg. **parallel processing of memory vs hysterical variability**

■ **Neurobiological models**

– Serotonin

– Endorphins

■ **Animal models**

- eg. **strial frontal pathways in SIB and Dopa type 1 receptor blockade**

- **territoriality, pecking orders and deprivational models of aggression**

■ **Behavioural Phenotypes**

# The Truths of Psychiatry of Intellectual Disability/Developmental Psychiatry

- Treating situations of extreme disturbance in a community setting of hardship, isolation, poorly coordinated services: poverty and paralysis of “caring systems”
  - Size of the mental health problem in ID is equivalent to that of Schizophrenia (Einfeld & Tonge)
  - in Australia there is no recognised MH service for ID
- the main difference is the burden of care on families (ave 7/24, 7/7), who are special in their love, dedication, commitment and would rather see their child and themselves die than hand them over for institutionalisation.
  - Cost is \$15-150,000/per year a young person
  - Recent lifetime costs for Autism 2.4 Million UK pounds
- In this context medication is a necessity that frequently enables survival, despite constrained quality of life of young person with ID and family

# Developmental Psychiatry

- Methodological problems of research
- Problems of academia and research for minority populations and a minority subspecialty
- Rely on gold standard of clinical experience and expertise and peer review
- Personal View: Concept of ADHD is helpful as it provides a hypothesis for treatment in a situation otherwise considered of poor prognosis; treatment often gives families a second chance to love their child.
- **Basic rules of Development:** taught by mentors, experience and research
  - Assess developmental profile: motor, self-help, receptive & expressive communication, social development, educational and other community skills
  - Behaviour should first be considered from a **developmental context**
  - If development is delayed, then it is likely to be **unevenly delayed**.
  - If one domain is delayed, then there is an increased expectation of another domain being delayed
- Examples
  - if specific language is delayed is more likely to have ID or probs of social reciprocity
  - If you have coordination disorder then you are more likely to have enuresis
  - If you have delayed development you are more likely to have ADHD
  - Autism is more likely in ID (now confirmed by genetic linkage studies)
- **Implication:**

*Developmental processes (and impairments) are genetically linked to each other*

# Is ADHD a valid disorder in Children with intellectual delays.

Antshel K, Phillips M, Gordon M, Barkley R, Faraone S. Clinical Psychology Review 2006

- Review that tests Robins & Guze **criteria of reliability and predictive validity**:
  - clinical correlates.
  - family history,
  - treatment response,
  - lab studies,
  - course , outcome.

## Background

- **IQ of ADHD is 9 pts lower**; correlation =  $-.3$  in general population
- Most research in ADHD excludes people with ID, and the interview/psychometric instruments aren't validated in ID eg DISC are in  $>80$ IQ
- How do you determine if sympts are excessive for mental age?
- Measures of impairment: In PDD impairment ratings are similar with or without ADHD: ie **does it matter?**
- Rutter IOW study showed rates of BD 4-5x greater in ID
- The answer is to **review the literature on those with IQ between 50 and 80**

# Is ADHD a valid disorder in Children with intellectual delays.

Antshel K, Phillips M, Gordon M, Barkley R, Faraone S. Clinical Psychology Review 2006

## Key Findings

- Rochester **Birth Cohort** n=5718, found 70 **children with borderline/mild ID of whom 30% had ADHD vs 6.4%** of N IQ. IQ<51 excluded. **Odds ratio : 6.3** (Colligan Weaver Katusic 2006)
- Compared with ID w/o ADHD, Lachlar found **ID w ADHD had more disruptive beh incl hyperactivity, delinquency, poorer family relns and also increased depression, anx and weaker social skills, in the same way as pops ADHD w/o ID.** He also found increased errors of omission (inattention) & commission (impulsivity) on CPT; no diff between groups\*\*\*\* (Lachar et al 1990)
- Sex ration in MR & ADHD are equal
- **Trajectory of sympts** are equivalent in Mild ID with PDD & ADHD (eg Yoshida & Uchiyama 2004)
- **Teachers rate ADHD symptoms similarly** w or w/o ID
- ID & ADHD show **similar co-morbidity studies** eg ODD 30-50%, CD 25% Generalised anxiety 25%, and depression 15% Tic Disorder. 50% have 2 co-morbid conditions; LDisability 15-40% & language impairment 15-75%; Reading disability; Mild mentally delayed cases (51-84IQ) accounted for 34% of population cases (Ishii et al 2003)
- Diagnostic Criteria for Learning Disabilities/MR (UK) **recognises the validity of ADHD in adults 15-55%,**
  - The lower IQ the higher the prevalence and
  - Lower IQ is likely to have more extreme symptoms (Seager & O'Brien 2003)
- Family studies not done with MR

# Is ADHD a valid disorder in Children with intellectual delays.

Antshel K, Phillips M, Gordon M, Barkley R, Faraone S. Clinical Psychology Review 2006

## Treatment response:

- chart review of 10 adults improved on either stim (Jou, Handen & Hardan 2004)
- Methylphenidate Rx: **44% showed 30% reduction**; Lower functional level may be assoc with less favourable response (Aman et al)
- with increasing effects with increasing dose of stimulants, both beh & neuro cog testing; yet **continue to have probs, 1-5yrs later 68%** still had probs (Santos & other studies)
- Also clonidine has dose related effect (Agrawal et al 2001);
- **Comparison of Risperidone and Methylphenidate** for ADHD in Children and adolescents with moderate mental retardation.
  - N=45, single blind, randomised parallel group trial
  - **Both reduced ADHD sympts but More pronounced effect for risperidone;**
  - Stims reduce wt, risperidone increases wt.
  - Choice might be influenced by side effects and co-morbidity
  - Prudent to trial stims first (Filho A, et al, 2005)
- **BT developed in ID:** DRO, TO, response cost, overcorrection are now used in ADHD (eg by Barkley 2005)
- meta analysis indicated response contingent procedures were more effective than others (Didden et al 97)

# Is ADHD a valid disorder in Children with intellectual delays.

Antshel K, Phillips M, Gordon M, Barkley R, Faraone S. Clinical Psychology Review 2006

## Laboratory Studies

- molecular genetics: **MZ/DZ studies** (in normal IQ), **found stronger cross twin correlations for IQ & ADHD in MZ, suggesting a shared genetic aetiology** and phenotypic correlation between the traits accounting for 86% of cross phenotype correlation and 100% cross research diagnosis. (Kunsti et al 2003)
- differences in length of Taq I polymorphism of the dopamine beta hydroxylase were assoc with signif diffs in sympts and neurocog testing; but also had an effect on IQ (Barkley et al)
- Neuroimaging: Syndromal ID & ADHD assoc w corpus callosum abn esp linking temporal and parietal cortices. In VCFS, those with and without ADHD showed differences in posterior Corpus Callosum (Anstel et al 2005)
- Neuropsychology: research slow, although profiles in mild ID are now described

## Course/outcome

- ADHD w mean IQ 101 score 73 on Vineland, indicating impairment equivalent to mild ID.
- **ADHD w ID: more functional impairment is expected though not researched**
- Prognosis of ADHD is affected by IQ eg affecting progression into adulthood.
- ID & ADHD FU for 4 yrs into adolescence: 56% continued to have ADHD, as well as higher rates of co-morbidity: anx 50%, tics 40%, elimination Disorders 40%; best predictor of ADHD at T2 was ABC inappropriate speech scale score. (Aman et al 2003)

# ADHD in Autism and PDD

- ADHD was reported in **78% of clinic population of PDD**. Hyperactivity more in Autism vs other ASDs (Lee & Ousley 2006)
- **ADHD symptom subtypes in children with PDD**. Subtypes readily identifiable w & w/o PDD (Gadow K, et al; 2006)
- **Control study** of Inattention, Hyperactivity and Impulsivity in teenagers with ID w & w/o autism: Tot N=72; 4 groups; used ADI-R and DSM clinical diag Mild-mod, ave age 16; (Bradley E. 2006)
  - **One in 2 teens with ID & Autism had IHI,**
  - compared with 1/7 of ID alone.

# Drug Therapy for ADHD-like symptoms in Autistic Disorder. (Hazel P, 2006)

- By convention ADHD is not diagnosed in presence of aut, reflecting assumption it may be consequent to Aut or ID
- Inattention affects 60% and hyperactivity 40%; an important cause of impairment
- **Are their qualitative differences?**
  - May have restricted attention;
  - overactivity may arise from stereotypic behaviour, tics, anxiety, agitated depression, or mania.
  - Aggression is common in Autism & may be incorrectly attrib to ADHD
  - Care in history and observation before prescribing
- There is no specific drug treatment for Autism; yet medications have been used for discrete problem areas
  - Aggression,
  - Tics
  - Stereotypic rituals
  - Hyperactivity
  - Sleep problems
  - Self injurious behaviour
- Paper reviews **efficacy & tolerability of medications for hyperactivity and inattention in Aut from medline search where there was systematic outcome measure of symptoms H& I**, mostly Conners Scale and Aberrant Behaviour Checklist

# Drug Therapy for ADHD-like symptoms in Autistic Disorder.

(Hazel)

- Increase in meds for Autism by 50% from 1993-2001 to 30%
  - Antidepressants most common,
  - Stimulants, and antihypertensives have doubled (alpha agonists)
  - mod increase in antipsychotics,
  - not in anxiolytics (Aman et al 05)

## Psychostimulant medication

- Dopaminergic pathways implicated in ADHD & Aut
- Retrospective chart unstandardised study of 195 improved 25% but 60% had adverse events, esp agitation (Stigler et al 2004)
- **RCTs more encouraging**
  - Quintana n=10, found improvement on Aberrant Behaviour Checklist, but parental reports of Hyperactivity showed no diff from placebo
  - Handen n=13 compared with two doses of MPH: 8/13 were responders of >50% reduction of Hyperactivity
  - Research Units on Pediatric Psychopharmacology Autistic Disorder Network study (**RUPP**): n=72 at 3 diff doses of MPH **49% responded with effect size of 0.54**; teachers ratings indicated greatest effect with greatest dose

# Drug Therapy for ADHD-like symptoms in autistic disorder.

## Alpha 2 adrenergic agonists

- Oral **clonidine** n=8
  - showed **effectiveness over placebo**
  - Clonidine associated with drowsiness
- Guanafacine (NA in Aus/NZ)
  - N=80 retrospective review, 7days -5yrs
  - 26% were much improved
  - Transient sedation in 31%

## Atypical Antipsychotics

- **Haloperidol** shown to improve various symptoms incl ADHD but is discouraged because of risk of dyskinesias
- Systematic review found 6 open label trials of Risperidone and 2 of Olanzapine with favourable effect on ADHD in Aut
- 1RCT of **Risperidone** n= 101 Autism (not nec ADHD)
  - Significant improvement for Risp on Hyperactivity and Aberrant Beh Checklist
  - Greater adverse events increased appetite, wt gain (2kgm ave), fatigue, drowsiness, drooling
- **Quetiapine** open label n=9, (not nec ADHD)
  - Found 50% reduction on Hyperactivity scores after 12 weeks
  - Sedation and wt gain reported SEs
- **Aripiprazole** n=5 case series
  - Hyperactivity reduced in all cases, but outcome measure was impressionistic
  - 4/5 lost wt (although attributed to the discontinuation of previous antipsychotic)

# Drug Therapy for ADHD-like symptoms in autistic disorder.

## Selective Noradrenergic Reuptake Inhibitors (SNRI)

- No RCTs
- **Atomoxetine** Chart review n=20 (not nec ADHD)
  - Signif reduction of Hyperactivity and inattention
  - Adverse events constipation, decreased appetite, tinnitus, moodiness and sedation

## Selective Serotonin Reuptake Inhibitors (SSRI)

- Fluoxetine n=7 chart review (not nec ADHD)
  - Found 14% increase in Hyperactivity (ns); 2 had SE of agitation
- Clomipramine RCT n=12 (not nec ADHD)
  - Signif reduction of Hyperactivity
- Clomipramine vs haloperidol vs placebo (not nec ADHD) n=37
  - Clomipramine NS to placebo
  - One case had severe agitation and aggressiveness needing hospitalisation and withdrawal of clomipramine
- Mirtazapine (**SN&SSRI**) n=26 open label (not nec ADHD)
  - No reduction in Hyperactivity Scores
  - SE of increased appetite

## Anticonvulsants

- **Valproate** open label n=14 5-40yrs (not nec ADHD)
  - 35% became less impulsive
  - SEs wt gain and sedation
- **Topiramate** n=15 chart review (not nec ADHD)
  - 38% mean reduction of Inattention & 30% of Hyperactivity
  - SEs cognitive slowing, rash
- Lamotragine RCT n=28 (not nec ADHD)
  - not difference and increased SEs

# Drug Therapy for ADHD-like symptoms in autistic disorder.

## Cholinergic

- **Donepezil** n=8 chart review (not nec ADHD)
  - 24% reduction of Hyperactivity
  - SEs nausea and vomiting (1) & mild irritability (1)

## Discussion

- RCT shows Stimulants are effective; Some benefit may have been underestimated if used in absence of Hyperactivity
- **No evidence on sustained release**
- Clonidine effects equivocal
- 1RCT for Risperidone shows robust effect, but problems with wt; Aripiprazole may be better
- Effects of Atomoxetine are modest
- **1<sup>st</sup> line Rx MPH but caution for Tics & other abnormal movements, anxiety or prominent perseverative behaviours**
- **Atypicals are effective but limited by their SEs**
- Other agents may be useful for other symptoms in Autism other than ADHD

## Personal Clinical Experiences

Tricyclics esp Amitriptyline is effective, as second line medication

Carbamazepine can be useful

I consider clonidine where I suspect Hyperactivity is associated with Anxiety

Propranolol in episodic dyscontrol, anxiety and PTSD

Naltrexone in ADHD associated with self preoccupied SIB

# ADHD in Behavioural Phenotypes

- Defn: Characteristic motor, cognitive, linguistic and social abnormalities which are consistently associated with a biological disorder. This may or may not constitute a psychiatric disorder. (Flint & Yule): “a window on the biology of the mind”

# ADHD % in Behavioural Phenotypes



- Smith Magenis Syndrome **90%**
  - ID, Aggression, autism, self injurious behaviour, inverted sleep cycle, obsessions, anxiety, specific learning probs etc
- Fragile X **75%** but hyperactivity declines after puberty
- Soto's Syndrome/Cerebral Gigantism **38%**
- Tuberose Sclerosis **35%**
- Williams Syndrome (microdeletion of 7q 11.23) **65%;**
  - 80% Psych Disorder; 95% Hyperacusis; Leyfer et al, 2006
- Turners Syndrome girls 45XO: **x18 increase; 24%** vs 1.3; become less active in teens Russell H et al. 2006
- CHARGE Syndrome: ADHD approx **50% and ASD 25%**
- Cornelia de Lange's Syndrome **40%;**
  - self injury (44%), daily aggression (49%), and sleep disturbance (55%). Berney et al; 1999.
- Neurofibromatosis NF1 Aut dom **50%** Philip & Turk, 2006.
- Velo Cardio Facial Syndrome **43%**
  - Simple Phobia 22.6% Anxiety Disorders 17% Enuresis 14% Major Depression 12% & Others incl Schizophrenia, Anstel K et al & Shprintzen R. 2006

# Association of ADHD and gestational alcohol exposure: an exploratory study. Bhatara V et al, 2006

- **Chart review of 2231 youths referred to a Fetal Alcohol Syndrome Clinic:** mean age 8.7yrs; across 4 US states; from 4 clinics that routinely evaluate and diagnose FAS;
- estimate 25 kids/week are born with FAS; half were native Americans;
- categorised according to levels of risk for gestational alcohol exposure: 4= weekly binge drinking in preg, 3= exposure but level unclear, 2= unknown exposure, 1= no exposure; Diagnosis only if in medical record
- **First ranking disorder** in was (rates in gp 4):
  - **ADHD 41(49)%;**
  - Learning disorder 17(45)%;
  - ODD/CD 16(41)%;
  - Anger control probs , unspec mood disorder & sleep disorder 10(50)%;
  - Mental Retardation 7.5(55)%
- ?Mechanisms:
  - Genes for ADHD predispose to maternal drinking as well as ADHD in child
  - Gestational alcohol causes ADHD via damage to developing dopa neuro systems
  - ADHD in FAS is a distinct subtype of ADHD syndrome
  - Prenatal Etoh is a measure of post natal mothering causing psych probs

# ASD & ADHD in boys w Fragile X premutation; Farzin F, et al. & Hageman R. 2006.

- Premutation: 55-200 CGG are considered unaffected
- SCQ/ADI-R and Conners N=14 probands and 13 control brothers
- **93% had ADHD symptoms, 79% had ASD vs 38% & 8%**

# **DCD and ADHD: a genetic study of their shared aetiology.**

Martin, Piek & Hay. 2006.

- **Developmental Coordination Disorder & ADHD each 7% prevalence**
- Twin study 1285 pairs 5-15
- **Rate of co-morbidity is 50% (Barkeley)**
- Strengths and Weaknesses of ADHD symptoms and normal behaviour scale (SWAN), Developmental Coordination Disorder Questionnaire (DCDQ)
- Structural equation modelling
- **Show a strong shared additive genetic component between most subtypes of ADHD and DCD**

# Case scenario

- “Martin” 12yo: Complex developmental disorder of presumed genetic origin and major disruptive problems
- Presentation: Small for age, skinny, red hair, minimal eye contact, restless and fidgety
- Expressive dysarthria particularly for Rs and Ss which sounded possibly palatal and due to problems of muscle tone and coordination
- Talking of sad events: death of GMGM (6/12ago), the cat that ran away 2 yrs ago, a friend who drowned 3 yrs ago.
- “used to get bashed at school”, didn’t like school, did like soccer; has a few friends but none in his class.
- **When anxious get aggressive and self injurious**

- Mother described as **unable to sit still** and the “**energy of a lithium battery**”
- **Used to cry x3/day and to get to sleep prior to sertraline**
- **Starting ritalin had a powerful effect on calming down, improving language and communication and enabling him to attend school**
- **Persisting sleep problems**, variable from 14 hrs to nil; **stays awake worrying about school**
- Prone to **school refusal and separation anxiety**. Uncharacteristically these get worse as term goes on ?due to increasing fatigue with muscle weakness and coordination probs.
- Also **anxious about people, open spaces and needles**.
- **Worried about increasing weakness and incoordination**.
- Always had a problem with **bed wetting and soiling**.
- **Mild ID with V<P; over time discrepancy getting less, as IQ declines**.
- Fully assessed by genetics and neurology, but made me think of Williams syndrome
- **16yo Brother has identical undiagnosed condition and had multiple psychiatric admissions for decompensation and aggression; diagnosed intellectual disability, bipolar disorder, behaviour disturbance, as well as loss of muscle tone, strength and coordination with variability of sleep pattern, on complex pharmacological and treatment regime**.
- Mother delightful, caring and competent; father divorced, substance abusing problems of verbal abuse, violence and excessive discipline; boys terrified of him; access going through court. Also has several psychiatric admissions and bipolar disorder.

# Diagnosis:

- Mild Intellectual Disability
- Developmental motor dyspraxia disorder,
- Enuresis, Soiling
- Complex language disorder with specific receptive, expressive and semantic pragmatic problems; (“put a sock in it”)
- PDD nos (ASD) (serious deficits in social relating skills and understanding, is ignored by peers, stereotypic interests in cars and space, sensory sensitivities)
- ADHD
- Depression
- Various anxiety disorders: separation, phobic, panic & general
- Selective eating disorder
- Problems with father, PTSD, couldn't eat for 4 days, school refused for 10 days
- Inadequate support from education system to support special needs

# Treatment

## Multiple problems needs multi-component treatment

- Skilled mothering
- Court protection from F
- Paediatrician called Case Conference to coordinate and value different agencies contribution
- Intensive weekly Skill base psychological home-based Rx from Autistic Association,
- OT Sensory assessment for sound and tactile sensitivity; splints for writing
- Advocacy in school: integration funding; made library monitor for recess
- Medication:
  - Ritalin 15,10, 10. helps developmental and educational perf and emotional reg
  - Amitriptyline, 25mg tds helped ADHD, enuresis, soiling, emotional regulation including anxiety such he could access anxiety management skills better, increased appetite
  - Risperidone 0.5 8am & 3pm helps aggression, anx and appetite
  - Clonidine 100mics at night
  - Epilim withdrawn
- Orthopaedics: Serial plaster to ankles for his shortened achilles secondary to toe walking

Note that brother has been on every medication and particularly benefited from Lamotragine and Propanolol.

*Went to Gold Coast by plane for week's holiday with Mother!*

# Conclusion

- ADHD is a predominantly biologically-based process of inefficient mental processing of consciousness
- Special populations are likely to help us understand multiple different ways in which this inefficient processing occurs
- We have such limited understanding of the early biological development of the mind.
- As we make strides in our understanding of mental development, we shall learn more about helping troubled disabled children
- The complacent and ill informed will continue to complain that we have caused the problems of hardship and disability in children

# The integration of the psychiatry of intellectual disability and child psychiatry

## Psychiatry of Intellectual Disability

**Institution based**

**Biased to biology and genetics**

**Concerned about biological disadvantage**

**Diagnosis based on syndromes recognition**

**Treatment bias to psychopharmacology,  
including segregation & passive eugenics  
communities**

## Child Psychiatry

**Community based**

**Biased to Sociology**

**Concerned about emotional deprivation**

**Diagnosis based on epidemiology**

**Treatment bias to psychotherapies**

**Attributing responsibility to families &**

The social acceptance of difference with biological variation

Integrating medical sciences with social psychology

## Developmental Neuropsychiatry

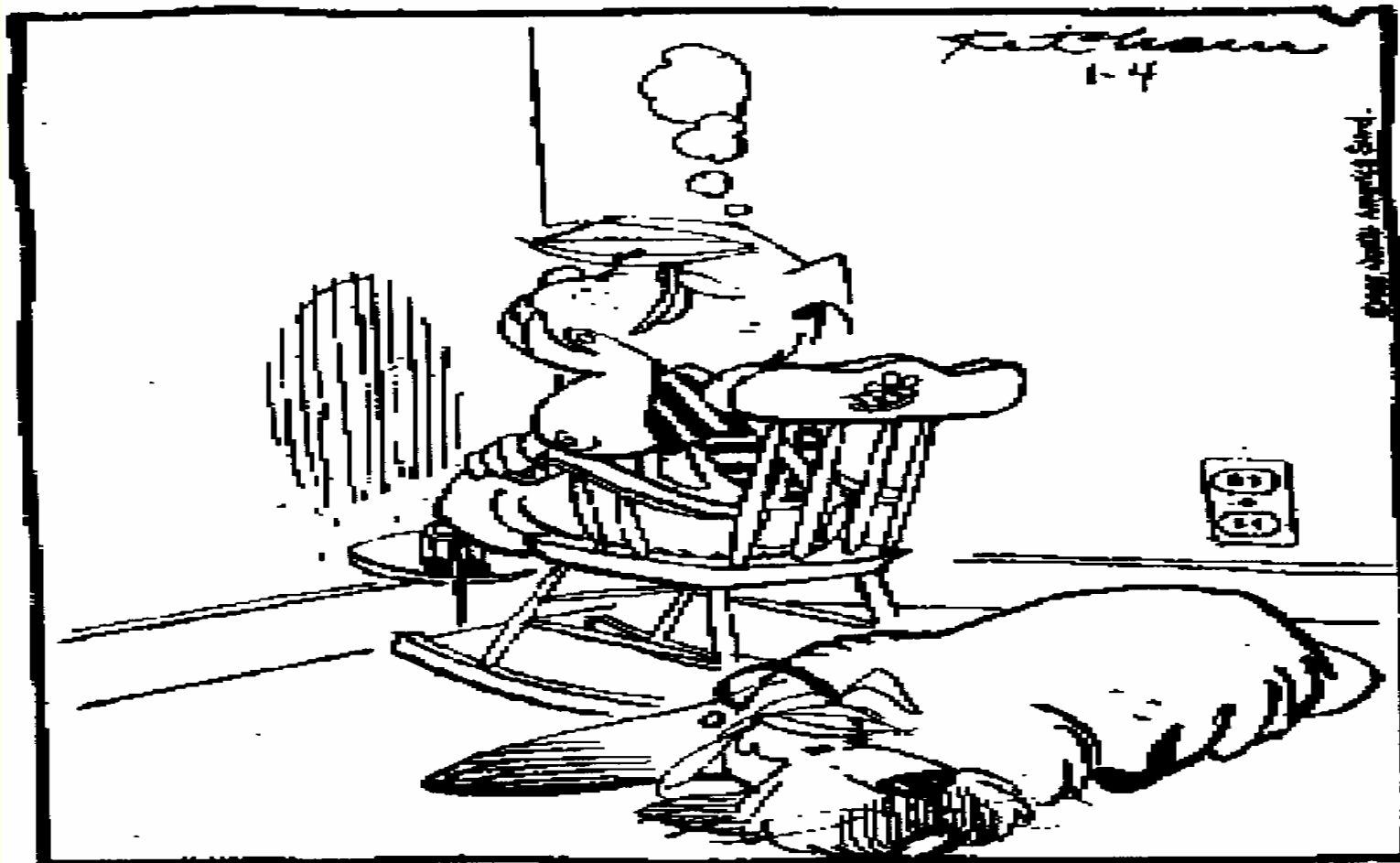
**the integration of developmental process in all young people:  
biological underpinnings in a context of family & community  
with expansion of aetiological & therapeutic models**



"I AM NOT GOOD AT BEING BAD?"



"I'M JUST BAD AT BEING GOOD."



**"BY THE TIME I THINK ABOUT WHAT I'M  
GONNA DO... I ALREADY DID IT!"**

**Thank you.**



