The aggressive and explosive child

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Children are out of control, says Spock

By CHRIS OLIVER WILSON, London, Sunday

Dr Benjamin Spock marked the 50th anniversary of his seminal work, *Baby and Child Care,* with a new warning that "a lot of children are out of control".

The 93-year-old American recognises that despite more than 40 million sales of his book, parents still feared unruly offspring.

"The world is dangerous in the sense that a lot of children are out of control," he said.

"Certainly there are a lot of teenage pregnancies and a lot of crime caused by teenage children, more than when I first became a paediatrician.

"It's not that there has been a breakdown in the majority of families. But children take advantage where the parents have lost conviction about how they should raise their children. A lot of parents have lost the ability to decide what is the right thing and how to be firm."

Dr Spock's famous manual was published 50 years ago next week. A seventh edition of the book has just been published, which includes additional sections on homosexuality and Aids.

The famed book starts with the words: "Trust yourself. You know more than you think you do." Preaching a child-rearing creed of love, tolerance and common sense, it became a surprise hit and influenced generations of parents.

Most memorably, Dr Spock said mothers should feed their babies on demand rather than at regimented four-hour intervals, and parents should avoid physically admonishing their children.

"They said babies should be fed on the dot, every four hours, even if they woke an hour early and cried," he said.

"There was a psychologist at the time who said, 'Don't hug or pick your child up' .. I thought this was pompous and unnatural."

—Sunday Telegraph

Learning objectives

1. Understand how aggression in childhood presents in typically developing children as well as children with developmental or neurological disorders.
2. Analyse these symptoms to understand their causes and environmental triggers.
3. Develop behavioural and pharmacological intervention strategies.

JJ age 12

- lifelong history severe behav. disturbance
- acquired brain injury age 6 weeks (NAI)
  - 9 rib #, widespread retinal haemorrhages
  - CT on presentation normal; MRI age 4: normal
- in care of paternal grandparents
- no family history mental health disorders

Current symptom profile

- episodic explosive behaviour (2-3 times/day)
  - verbal aggression
  - property damage
- impulsive
- defiant / oppositional
- mood swings, irritability
- most difficult times
  - lunchtime (home or school) and 6-8pm
- impairing at home (carers desperate, often in tears) and school ("crisis point")

Current symptom profile

- poor social skills
  - needs supervision in playground
  - victim of bullying
- occasional cruelty to animals; no fire, theft
- no significant anxiety, obsessions/compulsions
- ? tics in past
- headaches

JJ age 12 - School

- year 6 Catholic school 1 hr from Melb
- academic underachievement
  - grade 2-3 level literacy and numeracy

JJ age 12 – Pharmacol history

- Ritalin
  - first prescribed age 6 for impulsivity / inattention
  - "unable to function without Ritalin"
  - currently Ritalin LA 40mg caps i mane, Ritalin 10 tabs i at 3pm
    - benefits: calmer, can concentrate better
    - SE's : anorexia, initial insomnia

JJ age 12 – Pharmacol history

- Clonidine
  - from age 7 – 11
  - to assist sleep onset
  - 100mcg nocte
  - ceased b/c deteriorating behaviour at school

JJ age 12 – Pharmacol history

- Atomoxetine
  - tried for 4-5 weeks 8 months prior
  - assoc with verbal and physical aggression

JJ age 12 – Pharmacol history

- Risperidone
  - introduced 6 mths prior to assist sleep
  - 0.5mg at 7.30am and 3pm
  - successful, but assoc inc appetite → wt inc from 49kg to 72 kg over 6 mths
    - above 97%, ht 75%, BMI 29 (>95%)

Non-pharmacol interventions

- Melb City Mission ABI service
  - home-base behavioural support
- Counselling local community health service
- Respite funding used for carer to take him out 3 afternoons/wk
  - fly fishing, swimming
- Case management: Community Interlink
- Supportive GP

JJ age 12 – Presentation

- Large early pubertal boy
- Pleasant, engaging, nice smile
- Calm, quiet and generally cooperative
  - tested limits from 2nd visit
- Physical examination normal

JJ age 12 – Neuropsychology assessment

- IQ normal
  - scale scores all low av - av range
- marked impulse control deficit, disorganisation, dysregulation
- fluctuating attention, distractable, restless
- poor working memory
- academic - literacy early primary level

JJ age 12 – Recommendations

STEP 1

- Cease risperidone
- MPH – switch to Concerta 36mg

STEP 2

- Introduce mood stabiliser
  - lamotrigine or carbamazepine
- Consider newer atypical antipsychotic
  - aripiprazole (? lesser risk wt gain)

JJ age 12 - progress

- Happier at school, fewer absences
- Lost 1kg
- Delayed sleep onset
  - clonidine re-introduced 100mcg nocte with good effect

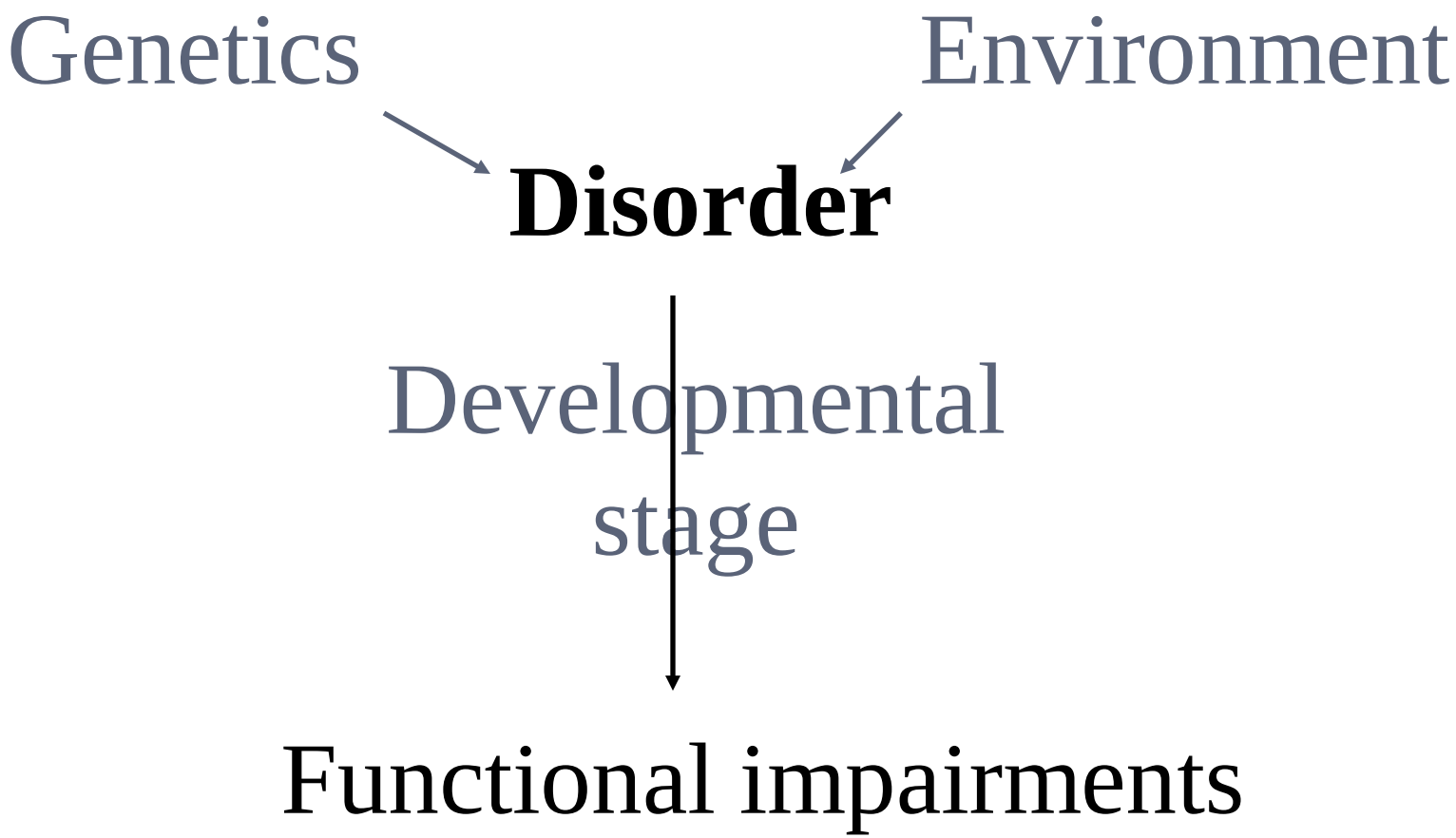
JJ age 12 - progress

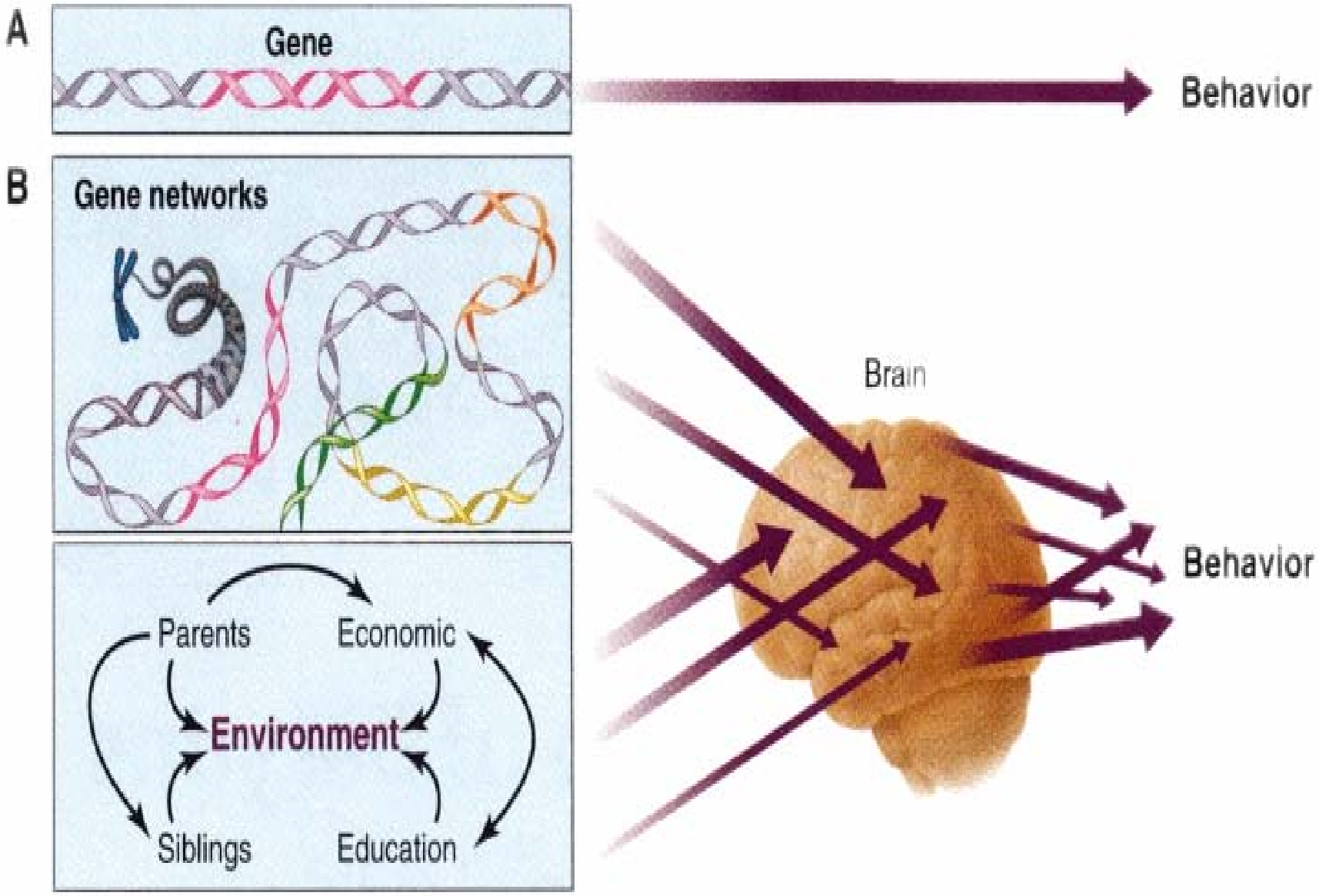
- Rage attacks persist
  - lamotrigine built up to 50mg BD initially
  - at 6 weeks
    - ? less frequent explosions
    - no AEs
    - JJ reports feeling OK (no new complaints)

What causes difficult behaviour

- Transactional model of child development suggests behaviours are the result of the ongoing interaction between qualities within the child and qualities within the environment

- Behaviour problems in young children can mask underlying developmental problems.


Genetics
Environment
Disorder
Developmental stage
Functional impairments


A
Gene
Behavior
B
Gene networks
Brain
Behavior
Parents
Economic
Environment
Siblings
Education

WHAT IS NORMAL?

BEHAVIOUR	AGE 2 %	AGE 3 %	AGE 4 %
Eats too little	50	26	37
Resists going to bed	70	46	56
Night-time waking	52	52	56
Wets bed at night	82	49	26
Hits others or takes things	68	52	46
Stubborn	95	92	85
Disobedient	82	76	78
Constantly seeks attention	94	48	42
Whines and nags	83	65	85
Active, hardly ever still	100	48	40

Developmental trajectory of aggression *(Tremblay Pediatrics 2004)*

- n = 572, 5 mths to 3 ½ yrs
  - Little / no aggression 28%
  - Mod / rising aggression 58%
  - High / rising aggression 14%
- Predictors
  - Young sibs, young Mo., mat antisocial behav., low income, smoking during preg, coercive parenting, family dysfunction

Developmental trajectory of aggression *(Montreal Longitud study)*

- 1000 boys followed to age 15
- Peak age 2-4
  - "Humans seem to learn to regulate the use of physical aggression during the preschool years"
- Persistent aggression predicted:
  - decreased chance of completing high school
  - Increasing chance of serious delinquency

"*The aggressive child needs to be educated into a state of pro-social adjustment*"
(Hans Steiner, Stanford)

Developmental trajectory of aggression

(Australian Temp Project: Sanson)

- Pathways to antisocial behaviour

  (http://www.aifs.gov.au/atp/pubs.html)

  - N = 2400 1983, 13 waves at 1-2 yr intervals
  - data from parents, nurses, teachers, child
  - temperamental factors do matter

ED presentations

(Woolfenden et al. JPCH 2003)

- Retro chart R/V 5 EDs Western Sydney Area Health Service over 5 yrs
  - 6-18 yrs, aggression, self-harm &/or substance abuse
- 279 presentations
  - 66% male; 42% under 14 yrs
  - 53% self-harm component
  - 24% re-presented within study period
  - 4 (1%) died [2 "external causes", 1 "natural", 1 ?]
  - 62% evenings / weekend

Aggression

1. Impulsive / affective / hot / reactive
   - manslaughter
   - responds to treatment
2. Planned / instrumental / cold / proactive
   - covert (predatory); murder 1st degree
   - serves an adaptive purpose (satisfying outcome)
   - callous unemotional *(Dadds M, Uni NSW)*
   - CD / Antisocial PD / psychopathy / criminal
   - later onset; resistant to treatment

Diff. neurobiol mechanisms / pattern brain activation

Maladaptive (impulsive) aggression

- In absence of expected social cues
- Disproportionate
  - intensity, frequency, duration, severity
- Difficulties reading facial expressions
  - read neutral faces as negative eg. fear, anger, disgust

DSM disorders associated with aggression in children

- ADHD
- Oppositional Defiant Disorder
- Conduct Disorder
- Autism Spectrum Disorders
- Anxiety Disorders incl. PTSD
- Bipolar Disorder
- Intermittent Explosive Disorder
- Other

Bipolar Disorder DSM IV

Bipolar 1

- One or more Manic Episodes (>1 week) or Mixed Episodes (> 1 week) and one or more Major Depressive Episodes (>2 weeks)
- Not accounted for by Substance Induced Mood Disorder, Mood Disorder due to a General Medical Condition, or Schizoaffective Disorder, Schizophenia or Psychotic Disorder NOS

Bipolar 2

- One or more Major Depressive Episodes (>2 weeks) accompanied by at least one Hypomanic Episode (> 4 days)
- Not accounted for by Substance Induced Mood Disorder, Mood Disorder due to a General Medical Condition, or Schizoaffective Disorder, Schizophrenia or Psychotic Disorder NOS

Bipolar Disorder DSM IV

- **Manic Episode**
  - Abnormally and peristently elevated, expansive or irritable mood > 1 week
  - Inflated self esteem or grandiosity
  - Decreased need for sleep, pressure of speech, flight of ideas, thoughts racing, distractibility, increased goal directed activity
  - Mood disturbance is sufficiently severe to cause marked impairment in social or occupational functioning
  - May be psychotic features

- **Hypomanic Episode**
  - Persistently elevated, expansive or irritable mood > 4 days
  - Inflated self esteem or grandiosity
  - Decreased need for sleep, pressure of speech, flight of ideas, thoughts racing, distractibility, increased goal directed activity
  - Mood disturbance is not severe enough to cause marked impairment in social or occupational functioning
  - No psychotic features

Intermittent Explosive Disorder DSM IV

- Under category: *Impulse control disorders Not Elsewhere Classified*
  - failure to resist an impulse, drive or temptation to perform an act that is harmful to the person or to others
  - feels increasing sense of tension / arousal before committing the act, relief after
  - may / may not be regret, remorse, guilt after
  - IED, kleptomania, pyromania, trichotillomania, path gambling, IED-NOS

Intermittent Explosive Disorder

- Discrete episodes of failure to resist aggressive impulses that result in serious assaultive acts (eg. striking, verbal threats) or destruction of property (purposeful breaking an object of value)
- Aggressiveness grossly out of proportion to any provocation
- Excl. ADHD / CD / PD / psychotic / manic / substance abuse / head trauma

Intermittent Explosive Disorder

Associated symptoms

- Preceding: chest tightness, head pressure, palpitations, tremor
- During: irritability, racing thoughts
- After: depression / fatigue

Consequences

- school exclusion, job loss, relationship breakdown, injury, incarceration

Intermittent Explosive Disorder

- age onset childhood to early 20s
  - mean early adolescence
- male > female
- low income / education
- > 80% at least one other DSM-IV disorder
- persistence more likely if both interpersonal violence + property damage

Intermittent Explosive Disorder

- Associated problems
  - Developmental delays
  - Neurological symptoms eg headache
- Examination
  - Soft neurological signs
- Lab
  - EEG: non-specific slowing
  - Neuropsych: non-specific findings
  - CSF: altered serotonin metabolism (low 5-HIAA)

Environmental factors associated with aggression

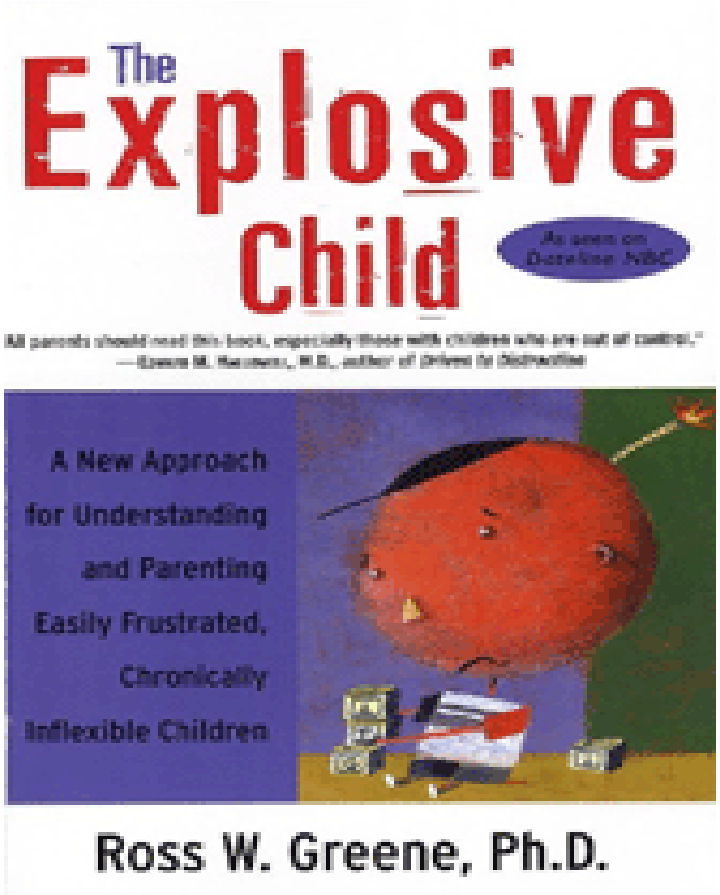
- Parental mental illness
  - anxiety, depression, BPD, SUD
- Social isolation
- Poverty
- Exposure to violence
- Attachment / parenting style

Neurological conditions
(hypothalamus / amygdala / limbic system)

- epilepsies - CPS
- ABI
- genetic / embryopathic syndromes eg. FAS
- frontal lobe tumours / orbito-frontal injury
- post-surgery
- hypothalamic lesions
- neurometabolic
  - Wilson's, porphyria, Lesch-Nyhan, Huntington's
  - assoc. cognitive decline

Ictal rage

- Rare
- Can occur in CPSs
  - unprovoked; not directed towards an individual
- Seizures and behavioural dyscontrol both manifestations of abnormal brain function
  - abnormal EEG does not neccessarily prove


The Explosive Child
A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children
Ross W. Greene, Ph.D.

Ross Greene: The Explosive Child

- Limited cognitive flexibiity
  - rigid, black & white
  - minimal negotiation / compromise skills
- Low frustration tolerance
- Little control over behaviour
  - motivated to change but lack skills

Ross Greene: The Explosive Child

- Temperament – poor adaptability
- Low self esteem
- Mood – irritability
- Executive function
  - organisation / planning
  - goal-directed behaviour
  - cognitive shift efficiency

Explosive kids are different

Most children who are misbehaving will comply immediately when confronted with adult authority, especially if the adult is not their parent.

Most severely explosive children will become increasingly agitated if confrontational approaches are used

Management options

- Dependent on underlying cause and associated symptoms of concern
  - Parent and teacher behaviour management
  - Family counselling
  - Individual counselling
  - Cognitive behaviour self control work
  - Social skills training
  - Medication
  - Alternative therapies

Talking to children

- Keep discussion to a minimum at time of misbehaviour
- Single logical explanation
- Empathy statement
- Act, ignore vs consequence

- Save the discussion until later

Self control training

- Learn to recognise the temporal associations of anger
- Learn to recognise the somatic warning signs of anger
- Signalling
- Self talk
- Relax hands
- Slow deep breaths
- Walk away and stay away until calm

Medication for aggression

(Jensen et al. JAACAP 2007)

- Pain / fever analogy
- Developmental context

- Treat primary disorder first eg ADHD
- Use behavioural / psychosocial treatments initially for associated aggression
- If unsuccessful: atypical antipsychotic

Medication targets

	INATTENTION	ANGER	ANXIETY	MOOD	TICS
STIMULANTS	++++	++	-	+	-
CLONIDINE	+	++	+	++	+++
SSRI's	+	+	+++	++	+
ATOMOXETINE	+++	+++	++	+++	++
ANTIPSYCHOTICS	-	++++	+++	++	++++
MOOD STABILISERS	-	+++	+	+++	+

Atypical antipsychotics – adverse effects

- Weight gain
  - olanzepine (mean 11% in 12 wks) > risperidone (7%) > quetiapine > aripiprazole ?
- Dyslipidaemia
  - inc total chol,LDL, TG; dec HDL
  - monitoring recommended
- Insulin resistance
  - Case reports new-onset type II diabetes
  - ? mediated solely though wt gain, or indep direct effect

Atypical antipsychotics – adverse effects (cont.)

- Hyperprolactinaemia
  - Dose-dependent
  - Level: weak correlations w symptoms
    - most – no symptoms
  - Gynaecomastia / galactorrhoea; hirsutism
  - Oligo/amenorrhoea, erectile dysfunction, dec libido
- Extrapyramidal symptoms
  - Risk acute dystonia lower than traditional antipsychotics
  - Akathisia rel high
  - Tardive dyskinesia rel low (and some reversible)

Atypical antipsychotics – adverse effects (cont.)

- QTc prolongation
  - Risk rel low
- Sedation
  - Dose-related
  - Tolerance usually develops
- Other
  - neutropenia, hepatotoxicity, thyroid dysfunction, seizures, NMS

Take home messages

- Aggression is developmentally normal in preschoolers but lessens dramatically with age
- Extreme explosive aggression is always the product of biology and environment but often has a strong genetic component
- Multiple developmental disorders are associated with aggression but treating the underlying disorder first may improve aggressive symptoms eg ADHD
- Behaviour management approaches which boost self esteem and use diversion and deflection techniques rather than confrontation are usually more effective
- Individual work on self control training which teaches children how to cue into the warning signs of getting angry and implement calming techniques using breathing and walking away is a more effective intervention for children as they get older than pure behaviour management approaches
- Medications target underlying symptoms of concern rather than diagnoses and are highly useful in combination with counselling in extremely aggressive children.
- Don't think of medication as "drugging kids out", think of medication as placing kids in a more favourable emotional zone

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