# Some personal guidelines for prescribing for the mental health needs of children and adolescents with intellectual disability and/or autism

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## Introduction

This article describes prescribing guidelines for the mental health of children and adolescent with intellectual disability (ID) and/or autism. It was seeded by my registrar Helen Puusepp-Benazzouz who wrote an article that highlighted increased problems when prescribing for this population of young people with ID/autism (ASD). Her article demonstrated that the evidence from the literature confirms that prescribing for young people with ID/ASD is significantly different from the mainstream population in the rates of therapeutic success and of side effects. It seemed therefore reasonable to describe more broadly some personal guidelines on prescribing based on my experience and reading in the population which may be helpful to parents or clinicians. This leads to differences in the choice of medications and how to manage them compared with a mainstream population.

The amount of research specific to this population is limited. It seldom addresses severe intellectual disability, and research into autism is described as scarce (Accordino *et al*, 2016; Jobski et al, 2017) and usually fails to consider or describe that drug treatment is for a co-morbid psychiatric disorder. There is no known drug treatment for the primary treatment of autism (although some have come and gone e.g. diets, secretin, and oxytocin; others are unproven such as stem cells or poo transplants). Autism is considered by most as a neurodevelopmental disorder and therefore not expected to be treatable (like ID), and therefore it is the comorbid psychiatric disorder that needs assessment and treatment. Indeed, the feedback we get from patients, their families and paediatric trainees (many of whom are now highly regarded paediatricians) is that many of these severely troubled children are helped with medications. The challenge is that the success rate of many medications in this special population is less, sometimes much less, and the rate of side effects is much higher. This is observed in patients with problems of brain impairment of any type (Plantier *et al*, 2016). Yet access to psychotherapies is frequently limited by cognitive/communication ability and the severity of the disturbance. Accordingly, they are travelling between "the devil and the deep blue sea", but with patience, we still expect to be able to help in most cases.

> "Many of these severely troubled children are helped with medications"

## Psychiatric Diagnosis and the importance of Context and Development

There is almost no literature on the reliability of diagnosis in severe ID and most young people with autism have an intellectual disability, and reliability studies are limited to those with mild intellectual disability (Antshel *et al*, 2006 and Larson *et al*, 2016). In the context of disabled children or young people, one must consider the nature of the interaction of the disturbance with the relationship/family environment. Every case needs to have an impartial assessment of family, parents and siblings and consideration of the impact on the quality of relationships. This includes the impact of the disturbance on the family and the impact of the family on the young person with ID.

In adults, it is sometimes assumed that the disturbance is more likely to be perpetuated in the individual, rather than related to environmental contributions (See Podcasts on Prescribing in children and adolescents with intellectual disability, 2017. Department of Developmental Disability Neuropsychiatry (3DN) https://3dn.unsw.edu.au/). In those with developmental delay, understanding the developmental context for shaping behaviour, is more important than chronological age. This is not to underplay the impact of adolescence. Adolescence often intensifies problems, partly from gaining size and strength which tests the trust and compliance in relationships, and partly from hormones which intensify your problems non-specifically for about 10 years, till the early twenties. Some behavioural genotypes

help predict the type of behaviour disturbance. However, it is by joining with the family to understand the nature of the child's disturbance in the context of knowing the family and appreciating the young person's developmental profile, that one obtains a pretty accurate view of the nature and function of a disturbance. Behaviours are likely to be reliably observed, but subjective emotional states of someone else with limited cognitive and communication skills are less reliable and benefits from using information from several informants in different settings, as well your own clinical perceptions (Dossetor, 2017; Dossetor *et al*, 2011). It is in this context that a trial of medication often illuminates the symptoms and provisional diagnosis from the expected effect from the medication.

It is recognised that toddlers are the angriest and most violent age group, with the least capacity for interpersonal connection and self-regulation. Skilled parenting is what humanises them, as they slowly develop awareness of self and others. Equally, this applies to young people with intellectual disability and autism, but they learn these skills more slowly. Nonetheless, skilled parenting is the first prerequisite as empirically shown from studies on special parent skills training (Stepping Stones Triple P, 2018).

**The Sequence of Social Development**

The process of the development of interpersonal connection is demonstrated in the 'Westmead Feelings Program: emotional learning for autism' (Radcliffe, Wong *et al*., 2017). This autism intervention researched and developed by our team is establishing that children with autism have the same sequence of emotional/social development as typically developing youngsters, but it is delayed and needs skilled, targeted and persistent training and support for these skills. This suggests that you have to develop emotional and theory of mind skills to develop attachments to parents and other significant adults.

*Figure 1: the sequence of social development (Dossetor, 2004).*

| Stages of Social Development | |
|---|---|
| **0-1 yr (Parent oriented)** | Development of primary attachment and wariness of strangers. Develop preverbal babble, enjoy rough and tumble. **Affective reciprocity** |
| **1-2 yrs (Adult oriented)** | Develop capacity for short lived separations; widen range of adult attachments, develop sense of play and humour with adults, such as Peekaboo. Start to develop **joint attention**. Respond to gross non-verbal emotional communication. |
| **2-2.5 yrs (Toddler Independence)** | Copy adults, develop pretend and creative play, become aware of peers in parallel play. Sensitive to subtle NVC. Shame. |
| **2.5-4yrs (Peer skill development)** | Move progressively towards skills of reciprocity with single age related peer; develop skills of sharing and turn taking. Initially can turn take if in charge or organised. Becoming less ego-centric; popularity comes from organising positive initiatives. **Theory of Mind** |
| **4-8 yrs (Peer Group Association)** | Understand reciprocity to maintain friendship and the practical needs a friend fulfils e.g, a friend helps you feel happy. Learn to cope with group relations and social organisation by rules. **Second order Theory of Mind** |
| **9-13 yrs (Pre-adolescent)** | Learn to challenge and create group rules. Clear gender split, friendships based on similarity, emotional support, and how they might be viewed by others. Capacity for guilt/sense of object constancy. |
| **13 yrs (Adolescence)** | based on trust and self-disclosure and mutual or admired aspects of personality. Abstract cognitive capacity. |

Emotional and social development starts with mirroring of affect to engage in learning early interpersonal attunement (affective reciprocity). This is the first stage of emotional awareness and regulation. Our dictum is that you cannot learn social skills without emotional skills. The second stage/year involves the development of joint attention and of directional affect, such as frustration with the outside world and temper tantrums with limited understanding of theory of mind and of what is frustrating them. This is followed by developing skills of parallel play and turn taking before progressing on to reciprocal play/social interaction. Accordingly, learning emotional skills, perspective taking and then emotional relationship problem solving is a prerequisite to learn social and peer group skills. Managing peer group skills are then a prerequisite to developing emotional resilience and social adaptability skills (mental health) and capacity for community participation (as illustrated in figure 2 above).


All mental ill-health involves a failure of social adaptability and reciprocity. Those with ID/autism will have greater problems in emotional learning and social adaptability that needs additional support and scaffolding with skill building and prompting from a supportive home and school environment. We have found that in autism, social skills are a predictor of mental health (as it is in the mainstream population). However, in autism, the delay in emotional and social development contributes to the higher rates of emotional and behavioural disturbance (Ratcliffe *et al*, 2015). This is confirmed by Hedley and colleagues study which showed that loneliness, satisfaction with social support, and ASD traits predicted the increased rates of depression scores (2018).

### When to use medication?

Several drug audits in our department have shown that medications are more likely to be used in those cases (with and without ID) with the most significant impairment from their emotional and behaviour disorder as measured on a Child Global Assessment Scale (DSMV) or MOF (Measure of Function) (Dossetor *et al*, 1997) when the child often becomes unreachable in other ways. Neuropsychiatry and neuropharmacology provide a wealth of information in understanding neurochemical and neuroanatomical mechanisms of the brain and brain dysfunction. The success of the drug industry is one measure of how powerful medications can be to help those suffering from the psychiatric disorder. However just like in cancer, despite active and sometimes heroic treatment, not all cases can be successfully treated.

With this preamble, it is easier to understand why young people with intellectual disability have rates of mental health problems 3 times a mainstream population at 40%, and the effect of the mental health problem has a bigger effect on the family coping resources than the in-

tellectual disability alone (Enfield *et al*, 2011). The mental health problems of children and adolescents with intellectual disability is 14% of the mental health burden of all children, although they only account for 1-2% of the population (Emerson & Hatton, 2008). However, recent epidemiology shows the rates of mental health problems for autism are even higher at 70% (Simonoff *et al*, 2008). Headley and colleagues have also identified a 4 times higher rate of suicide in people with autism with 50% showing depression and 36% with suicidal ideation (2018).

50-80% of school-aged children with autism have mental health problems, 40% have more than one. In particular, various anxiety disorders, mood disorders, and ADHD and other disruptive behaviour disorders are common. The following also have raised rates: tics (22%), tourette's (11%), enuresis, encopresis, motor coordination disorders, language disorder, psychosis NOS, bipolar disorder, schizophrenia, catatonia, self-injurious behaviour, pica, somatisation disorder, stereotypic behaviours, disorders of eating, and sensory processing disorders. In clinic populations 95% had 3 or more conditions, 75% had 5 or more (Joshi *et al,* 2010). This concurs with my own clinical audit (Dossetor, 2014). The common disorders are the spectrum of disruptive disorders and anxiety disorders, mood disorders and self-injurious behaviour, and other developmental disorders.

In Australia, a survey of adults reported retrospectively across primary, secondary and tertiary settings that 74% of school-aged young people with autism complained of being bullied, having no friends, and not fitting in; 60-75% felt they needed access to services, and 49% to mental health services (Warren, 2013); 66% of parents stated educators were not well informed whilst 72% reported they received tailored support. Indeed, Warren estimated that in Australia, 100,000 people have Autism and mental health problems. There is also considerable research that shows how stressful parenting a child with intellectual disability and particularly with autism is, often involving acute or chronic stress (Stewart *et al*, 2016). A recent example was in an autism school clinic where 7/8 of the mothers were previously unrecognised to be depressed, (and 6/8 children had untreated sleep problems) (Singhal *et al*, 2018). I find it is not uncommon, to come across parents with murder-suicide ideation, which I take as an alarming indicator of our society's failure to understand and support these families. It concerns me that I have been exposed to a series of cases which appear to have a lack of a collaborative mechanism between the National Disability Insurance Scheme and other agencies in complex cases that need such interagency collaboration.

These statistics change one's expectations when you meet a child with an intellectual disability and or autism in a child and adolescent psychiatric clinic. Any young person in a clinic with ID has a high chance of also having autism and any young person with ID/ASD has a more than evens chance of having an anxiety disorder and ADHD. ADHD is clearly an additional handicapping condition on top of ID or autism, and anxiety in ASD is often highly persistent and debilitating. However, it is often difficult to distinguish between anxiety and ADHD or whether both are present.

> "The most common presentation is a non-verbal, hyperactive, disruptive, stereotypic, anxious 7-12 year old with ASD and ID"

Before thinking psychiatric disorder, consider **holistic medical needs**: any non-verbal young person with autism, with an acute exacerbation of behaviour, may well have an onset of pain or discomfort that s/he cannot describe. Accordingly, they need a full medical review and investigation, including attention to the problems that cannot be seen on routine medical examination: constipation, dental problems, sinus problems and gastric problems such as reflux, helicobacter pylori or eosinophilic oesophagitis (Dossetor, 2017). These medical risks need comprehensive assessment before considering a serious mental disorder.

- A large autistic adolescent had become dangerously violent and could not be brought to any hospital clinic, and his paediatrician *demanded* a psychiatric opinion. This could only be provided by a school visit (not a standard practice and not generally provided by any medical service). The psychiatric team proceeded to coordinate a day admission and anaesthetic to assess and investigate him medically, including CT (a brain scan), EEG, blood tests, full examination with Dental, ENT and gastroscopy assessment. This examination under anaesthetic found a non-descript organic mass high in his nasal airways. Removal of this obstruction led to dramatic improvement. Yet it is hard to find a health service that will provide such a specialist patient-centred holistic medical assessment for one who is so hard to engage. A careful tranquillisation and sedation regimen was needed to facilitate a non-traumatic admission and such a simple, albeit a subspecialty, cure.
- A similar case went through complaint procedures until a repeat gastroscopy demonstrated that the first choice proton pump inhibitor (PPI) was failing to control gastritis, but responded to a second PPI.

The most common clinic presentation is a non-verbal, hyperactive, disruptive, stereotypic, anxious 7-12 year old with ASD and ID. (Many CAMHS services do not provide a service for those under 12, even if they have had an acute psychiatric in-patient admission previously).

**What medications to use?**

**Clonidine** is the most useful and underused medication in this situation (Jaselski *et al*, 1992). It is a second line treatment for ADHD, and a powerful anxiolytic. Its effects last approximately 4 hours. Sometimes these youngsters need 100 micrograms at first presentation in the clinic, as they are so disruptive that the interview cannot proceed until we wait for the 45minutes from ingestion to therapeutic effect. At low doses, it is just anxiolytic and calming, at higher doses it can be used for some sedation and safety management. Dosing has to be titrated between 25-75 micrograms at 7 am, 11 am and 3 pm and 100-150 micrograms at night which is most helpful in sleep initiation. My general maximum in 24 hours is 350 micrograms. It is soluble in water for those that have difficulty swallowing, or if diluted in a 10 ml syringe, it enables precise dosing, such as 15 or 20 micrograms, for those sensitive to medications. I recommend that responsible usage can involve giving a higher dose to manage an anticipated stressful event, such as visiting the dentist, or hairdresser, or the family going out to dinner. My view is that the more profoundly disabled or younger the disabled person, the more likely clonidine is to be the answer. It is also highly helpful as an adjuvant for partially treated ADHD, and great for night time anxiety/sedation, including post traumatic anxiety. Some children do not respond well, and my suspicion is that it is in those who fight any control that comes from feeling a little sedated, as opposed to appreciating the anxiety relief. In the mainstream population, it is used to lower blood pressure and prevent a migraine. There is concern about increasing numbers of presentations from accidental overdosage in children which has caused bradycardia and sedation (Cairns *et al*, 2018). This emphasises the need to keep medication safe and away from young children or developmental impaired young people. **Guanafacine** is newly available in Australia, and has a similar mechanism but only needs to be given once a day. So far I do not consider it an alternative for clonidine, except for that reason.

**Propanolol** is another underused anxiolytic, which can be dramatically helpful in autism, where anxiety is a driver of other disruptive behaviour. I refer to it as 'like non-sedating clonidine'. I generally start at 10mg at 8am and 2pm increasing to 20mg in a week. I routinely look to increase to 30 and 40mg dosing to explore full effect. It is additive to clonidine, so cannot be generally given together, although I find that a later evening dose of clonidine is often helpful. As another anti-adrenergic medication, it also is seen to have a role in 'intermittent explosive disorder (DSM-V)'. Propanolol is sometimes of dramatic benefit when other medications have not benefitted in autism, possibly because of maintaining clear consciousness, while alleviating anxiety (reportedly used by medical students to help exam anxiety). If there is a history of asthma, then propranolol can precipitate an attack and a cardio selective beta-adrenergic blocker is safer, such as metoprolol.

> "the risk of behavioural activation is approximately 40% in ASD and 25% in ID, whereby they become hyperactive, agitated and distressed"

**Stimulants** are the most widely used psychotropic medications and can transform life for someone disabled with ADHD. Unfortunately, in those with ID and/or autism the success rate drops from 85% to 25% on first trial and has side effects that you do not expect, such as increased violence, agitation, anxiety and sleeplessness (Stigler *et al*, 2004). I argue in those with autism that improved concentration can increase their focus on stereotypic thinking making their anxiety markedly worse. Accordingly, stimulants must be approached with caution, with no heroics for continuing, if you reach a dose that has a bad response. However, if there is a benefit, count your blessings and use it. So often ADHD has co-morbid disorders, such as tics or anxiety. In these situations, stimulants can more often than not improve the tics or anxiety as make it worse. The research shows that these developmental disorders co-occur so frequently that if stimulants makes the co-morbid disorder worse, it is only bringing out a predisposition, rather than causing it (Cohen *et al*, 2015).

It is recognised that not only do young people with autism have high rates of anxiety, but also of mood disorders and depression. Those with self-injurious behaviour may need treatment for both ADHD and anxiety/depression. My second most underused drug is **amitriptyline,** a traditional tricyclic antidepressant. In this population, I had hoped atomoxetine would become a safer modern replacement for amitriptyline, but in my own atomoxetine case series, 19/20 cases had unacceptable side effects in this population (I recognise there is still a small group that do benefit from atomoxetine, it is just not an early choice of mine). Amitriptyline is highly valued as it improves both ADHD and especially impulsiveness, and also anxiety and mood, although it is not proven for depression in children. It is also useful for problems of sphincter control, or looseness of bowel or bedwetting. I explain that the only serious risk is in overdosage, where it affects cardiac conduction, and accordingly routinely I like to have an ECG to check the QT interval before starting the treatment. Some feel it can lower seizure threshold but in practice this is seldom a problem, and the advice from neurology colleagues is that this risk is not severe enough to alter therapeutic planning, and if seizure frequency increases, then one can weigh up whether to change the amitriptyline or the anticonvulsants. It is otherwise generally a problem free medication that can also improve sleep patterns. In those under 40 kg, I start at 10mg and increase to 10mg three times a day, 7am,

2 or 3pm and 7pm. If there are no side effects and if insufficient effect, I increase by 10mg/day/week, so in week 4 they are taking 20 mg 3 times a day. I often then increase to 25mg tds, as that requires fewer tablets. In the mainstream population, it is an antidepressant, but can also be used for chronic pain and recurrent headaches.

**Treating ADHD** is much more difficult in this population, and partly because of the extent of the co-morbid anxiety. I use the algorithm promoted by my colleague Prof Philip Hazel, of primary, secondary and tertiary treatments for ADHD (Personal Communication). Stimulants are primary, clonidine, atomoxetine (and amitriptyline) are secondary and mood stabilisers and major tranquillisers tertiary. Although stimulants are dopamine stimulants and major tranquillisers are dopamine blockers, in practice they regularly enhance each other in the treatment of ADHD. Similarly whereas **anxiety/depression** in ID/autism was thought to be so difficult to treat, I feel there is a similar algorithm, and it really pays to persist with trialling different options. Primary treatment is clonidine or an SSRI, the secondary is propranolol, or an SNRI and tertiary is a mood stabiliser, naltrexone or second/third generations major tranquilliser. Other medications that can be considered include 5 hydroxytryptophan, a benzodiazepine or pregabalin. The rising awareness of catatonia (Dossetor, 2018) has led to increased use of lorazepam in some highly anxious, severely disabled people with autism. In the mainstream population, fluoxetine is effective in 2/3, and a second SSRI is effective in another 2/3. I use fluvoxamine to minimise sleep problems or use sertraline out of experience. Mirtazapine is good for night sedation, mianserin for sensitivity to side effects. Venlafaxine is an SSRI at lower doses and both an SSRI and SNRI at higher doses, and I feel is a stronger antidepressant for those resistant to treatment.

**SSRIs** are also challenging in ID/autism. Although SSRIs are the first choice for anxiety and depression and indeed obsessive compulsive disorder, in ID/autism one has to be more cautious. In this population, the risk of behavioural activation is approximately 40% in ASD and 25% in ID, whereby they become hyperactive, agitated and distressed (Cook *et al*, 1992). Many clinicians use an SSRI in autism for anxiety, and the patients regularly turn up in our emergency department in a state of crisis from behavioural activation, and the dose has to be reduced and often withdrawn. One has to be so watchful. Sometimes the effect is delayed, and sometimes it occurs on increase in the dose. Paradoxically there is also a group of young people with autism who present with anxiety and depression, some of whom present very early, as young as 4 or 5 years of age, who specifically require an SSRI. The meta-analysis for mainstream adolescents on SSRIs indicated behavioural activation was less with fluoxetine (Grunebaum & Mann, 2007). I feel that negative stereotypic thinking can lead to significant and severe depression at a younger age than you would expect. These cases often seem to need higher than standard dose, and one can cautiously and slowly increase to 2-3 times the standard dose, and this treatment may need to be sustained.

There is RCT evidence for benefit of SSRIs in adults with autism, while there is evidence in children but it is less strong (Accordino *et al*, 2016). Why should people with autism be split into those for who SSRIs are specifically

helpful and those who have significant side effects? I don't think it relates to the genetics of the P450 system for drug metabolism, based on my experience. Does it relate to the observation that some with Autism have high serotonin levels (on CSF fluid) and others have low levels? Is this related to their problems of maintaining optimal arousal levels for concentration and emotional attunement, or is it related to something different such as the genetics of their monoamine oxidase inhibitor enzyme or serotonin transporter system? Studies by DeLong and colleagues (1998 and 2002) of children with idiopathic ASD treated with fluoxetine (0.15-0.5mg/kg) for the duration of 5-76 months showed an excellent response in 17%, good response in 52%, fair response in 8% and poor response in 23%. In this study behavioural activation, hyperactivity, irritability, aggressiveness and agitation were primary factors for fluoxetine intolerance. Conversely a strong correlation of fluoxetine efficacy has been seen with the family history of major affective disorder such as bipolar disorder or major depression. One can speculate, but as a clinician, all one knows is that we don't seem to be able to predict the effect of these widely used medications on clinical grounds. The family history of effects and side effects of psychotropics is often a valuable indicator of what drugs may help. The other situation where I feel an SSRI is specifically indicated in autism is where aggression is precipitated by the stereotypic rigidity. It may not change the stereotypic rigidity and repetitiveness much, but does reduce the compulsiveness that leads to aggression.

**The increased rate of side effects** does need active management, and ready and regular access to the clinician to discuss developments. I am fortunate to be supported by excellent paediatric registrars, who often provide weekly telephone follow up, to provide support for understanding the effects and risk/cost-benefit, while progressively adjusting the doses. This includes trying medications in order, sticking to the golden rule of "only make one change at a time", so one can learn about the effect of *this* medication in *this* individual which is what matters. I think it is also an excellent way for the registrars to get to know these medications. They remain the independent judges of our clinical interventions, and we regularly celebrate our successes. Similarly, I expect the parents to become authorities and custodians of the experience on the way these medications work in their child, so they subsequently feel comfortable to make urgent changes in a crisis and consult the clinician later. Emergency Department attendances can be traumatic for everyone and are best thwarted by anticipating crises and having a crisis medication available.

One of the challenges in the literature is the confusion between symptoms and psychiatric disorders. There is evidence that certain drugs can help irritability, but not for aggression. Risperidone has been tested for symptoms more than disorders which creates ambiguity on when to use it. For example, much funding was spent on

> "Bipolar disorder is often difficult to diagnose in those with ID/ Autism."

examining its effect on aggression and conduct disorder. However **aggression** should be subclassified into first predatorial or instrumental aggression, for which medication does not have an evidenced-based role, and in fact, the aggressor may even experience pleasure or calmness from hurting others. This is contrasted with emotional aggression for whom anger and aggression is a dysphoric and emotional reaction that may be part of problems associated with other disorders of self-regulation, for which a patient may well be looking for treatment. The reductionist literature on whether major tranquillisers work in aggression in adults with ID and ADHD cannot bring enlightenment if one doesn't subclassify aggression, report on the presence of co-morbidities and consider the developmental context including for adolescence (Tyrer *et al*, 2008 ).

Further, **major tranquillisers** are not a treatment of first-line treatment for developmental disorders, as long-term usage generally is recognised as having long-term outcome risks, particularly with the weight gain, cardiometabolic syndrome, diabetes, heart disease and many other diseases, leading to the general concern about premature mortality. There are now specific guidelines for early intervention even in adolescence and available on-line aid-memoires (Trollor *et al,* 2016). However where the consequences of not taking these medications are severe, they can also be taken safely for years. Some of the above alternative medications may be equally beneficial without these long-term consequences.

### Adolescence

In addition to my comments on the primary importance of developmental age, there is also no doubt that the chronological age of adolescence frequently stirs up difficult behaviour. There is an increase in energy, emotionality and disruptiveness. It is evident that for approximately 10 years from 13 to 23 many disabled young people's mental disorders become worse, found in populations whether disabled or not. This has been described as the age when the emotional/limbic systems become coherent, but the frontal lobes/executive function skills are still developing both capacities for judgement and restraint (Goodyer, Personal Communication). This might be described as teenagers learning to drive their emotions, whose car with a strong accelerator, but the steering and breaks aren't well developed. There is no doubt that many adolescents become a danger to others and

often especially their families, and in transition to adult services, their medications are even more unlikely to be actively managed. This is partly because general practitioners may not have been included in their management as children and adolescents and partly because young people with intellectual disability and their general practitioners are avoidant of their access to regular mainstream service and review. They frequently need an advocate to enable equitable access unless a primary health service takes it on as a routine obligation on their part and the Agency of Clinical Innovation provides a useful consumer/advocate guideline (ACI, 2017) My adult psychiatry colleagues report with concern, the cases that present on 3 or more major tranquillisers without continuity of rationale nor monitoring. Withdrawal of these medications, albeit now the patient is past the turmoil of protracted adolescence, is a slow and patient process. Nonetheless, their disapproval of the excessive use of major tranquillisers is often made post hoc, and without the experience of the family attempting to survive adolescence without feeling compelled to relinquish care. Nonetheless, major tranquillisers have an important role in the treatment of ADHD, anxiety, mood stabilising, mood elevation, and some reduction in the compulsion of stereotypic behaviour, as well as an antipsychotic. Aripiprazole is the first 3rd generation major tranquilliser with a new 'dopamine stabilising' capacity and is possibly the safest major tranquilliser with least weight gain. It clearly is valuable in anxiety, mood stabilisation and elevation as well as an antipsychotic. It has evidence of effectiveness in autism and is approved for its usage by the FDA in the USA for autism (Bristol-Meyers Squibb, 2016). The PBS has not approved it in Australia leading to a significant social injustice for people with autism who can least afford its disproportionate price. This financial obstruction on access can put them at risk of significant neurological side effects from the alternative first-line cheap major tranquillisers. This was illustrated by a recent case of life-threatening dopamine sensitivity withdrawal syndrome from haloperidol in an 8-year-old with autism (Suma Syamkumar, in press). Quetiapine and ziprasidone have some supportive evidence from open label studies (ziprasidone having the least weight gain), but psychiatrists are experienced with the full range of modern major tranquillisers and they all have a role with moderate clinically observed differences in irritability vs anxiety and in the rates of side effects, particularly for weight gain. However, I can't help but feel that part of the reason for the stronger evidence in risperidone and aripiprazole probably reflects greater pharmaceutical investment in studies of these medications.

## Disorders

**Bipolar disorder** is often difficult to diagnose in those with ID/autism. I listen for unexpected insomnia for a few nights, or a history of hypomanic euphoria, interspersed by evident misery at other times. I think the notion of a spectrum from ADHD/anxiety disorder, deteriorating into bipolar disorder with marked mood lability and altered sleep and appetite is helpful. Some young people with autism suffer marked mood lability even from an early age, which may benefit from a mood stabiliser. The traditional **mood stabilisers** are valproate, carbamazepine and lithium. olanzapine, quetiapine and the 3rd generation major tranquillisers are also recognised as mood stabilisers, along with some newer anticonvulsants such as lamotrigine. Two mood stabilisers are generally better than one if the first is not sufficient. Valproate has more research on initiating treatment for hypomania than carbamazepine, but carbamazepine has a long track record. Lithium is still the most potent mood stabilisers and has a role in the treatment of emotion-led aggression in ID. However, its interaction with major tranquillisers needs watching. It potentiates the effect of risperidone but can inhibit the effect of olanzapine, as I found this out to my cost in a 150kgm violent autistic boy who had a fit and was started on carbamazepine. Fortunately, a switch to valproate for his uncomplicated epilepsy brought back the essential effectiveness of his olanzapine for his anxiety and stereotypic rigidity.

Trauma and deprivation lead to long-term neuropsychological brain changes. People with autism seem to be disposed to **PTSD**, as their memory for negative events may be predisposed to stereotypic repetitiveness which in term leads to flashbacks and associated acute anxiety. Clinicians often refer to stereotypic anxious thoughts as **OCD**, but it not distinguishable from stereotypic anxious thoughts as found in many young people with autism. I think that autism invalidates the diagnostic value of a Yale Brown Obsessive Compulsive Scale. My colleague Chris Wever, who specialised in OCD, argued that if the obsessiveness led to excessive hand washing, cleanliness and fear of germs, then one could classify the predicament as OCD in the context of autism and follow standard OCD treatment. One helpful clinical observation is that anxiety in the context of aggression can be a redeeming feature and indicative of a better long term prognosis. I sometimes have a family report that relieving anxiety for example with quetiapine in autism, makes the irritability and anger worse. So not all anxiety is bad! Conversely, non-compliance and aggression in a teenager often makes CBT ineffective and the OCD of poor prognosis.

What also needs to be emphasised is the frequency of **co-morbid psychiatric features**, for example as often seen in children and teenagers with **Fetal Alcohol Spectrum Disorder**. They may suffer mild to severe learning problems such as attention and memory problems, language or reading disorder or ID, have problems of motor coordination and therefore problems of basic self-care, eg toileting, hygiene and menses, be on the autistic spectrum with lack of theory of mind, and easily taken advantage of in their aims to have friendly relationships. They are predisposed to severe ADHD and anxiety. Additionally, they may have chronic PTSD, and major mood disorders such as severe depression, sometimes with bipolar components. They also lack many skills of executive function, such as impulsiveness in some instances and repetitive compulsions for other elements, and problems of informed consent and choice. In addition, they may have severe tics, or tourette's, worsened by anxiety and auditory and sometimes visual or other modalities of hallucination. The hallucinations can be difficult to explain but can be part of the autism, the anxiety, the depression or the post-traumatic stress symptoms. These are associated with increased risk of substance abuse, criminal behaviour and psychotic illness. Keeping someone like this safe and promoting continued development is challenging, requiring close interagency, interdisciplinary collaboration, even if they have likeable qualities and areas of competence and self-worth. Such complex problems can lead to out of home care placement, which in turn might break down.

### Other treatments

In every new case, one reviews the behavioural skills and the warmth and attachment between a parent and their developmentally disabled child. I always look for opportunities to improve both **behavioural approaches and relationships as a consequence of a drug intervention**. For example, we know that children with externalising symptoms bring out different parental responses to those with internalising problems. In brief, research shows that the externalising behaviour of ADHD can also bring out an increase in externalising parenting with increased criticism and emotionality, which does not help the young person with ADHD. Conversely treatment creates an opportunity to encourage a more positive and supportive parenting style. It impresses me that parents and teachers and peers shout less at children who are on treatment of their ADHD i.e.. medication can give a second chance to love such a behaviourally disadvantaged child. We don't know in the long term how long medication is needed, but we do know that it can prevent progression to conduct disorder and substance abuse. Similarly, we know that such second order changes of medication as a change in parenting style does have a long-term impact. Conversely, we know that children with significant complex disability can overwhelm the resources of their family and parents. This was nicely illustrated in a study of families with a child with down syndrome, who are mostly affectionate and cohesive, like the child, except when that child with down syndrome also has autism (which occurs in 10-30%, Dykens, 2000). Accordingly, the parents' level of **stress, burnout, anxiety and depression** needs assessing and frequently benefits from an antidepressant, which also improves the parent-child relationship, without other changes in the stress. As my father in general practice used to say: "anxiety and depression are the disorders that nice people get, as they internalise their real life stresses, like the heroic pilots of the battle of Britain who would all suffer nervous breakdowns, without proper support and breaks from the stress". It also emphasises for me that the parents of these difficult and disabled young people are frequently our unsung heroes, who need proper breaks and support to survive, and without which need treatment for their burnout, anxiety and depression.

> "I realised that these were exceptional families managing children and adolescents with exceptional difficulties"

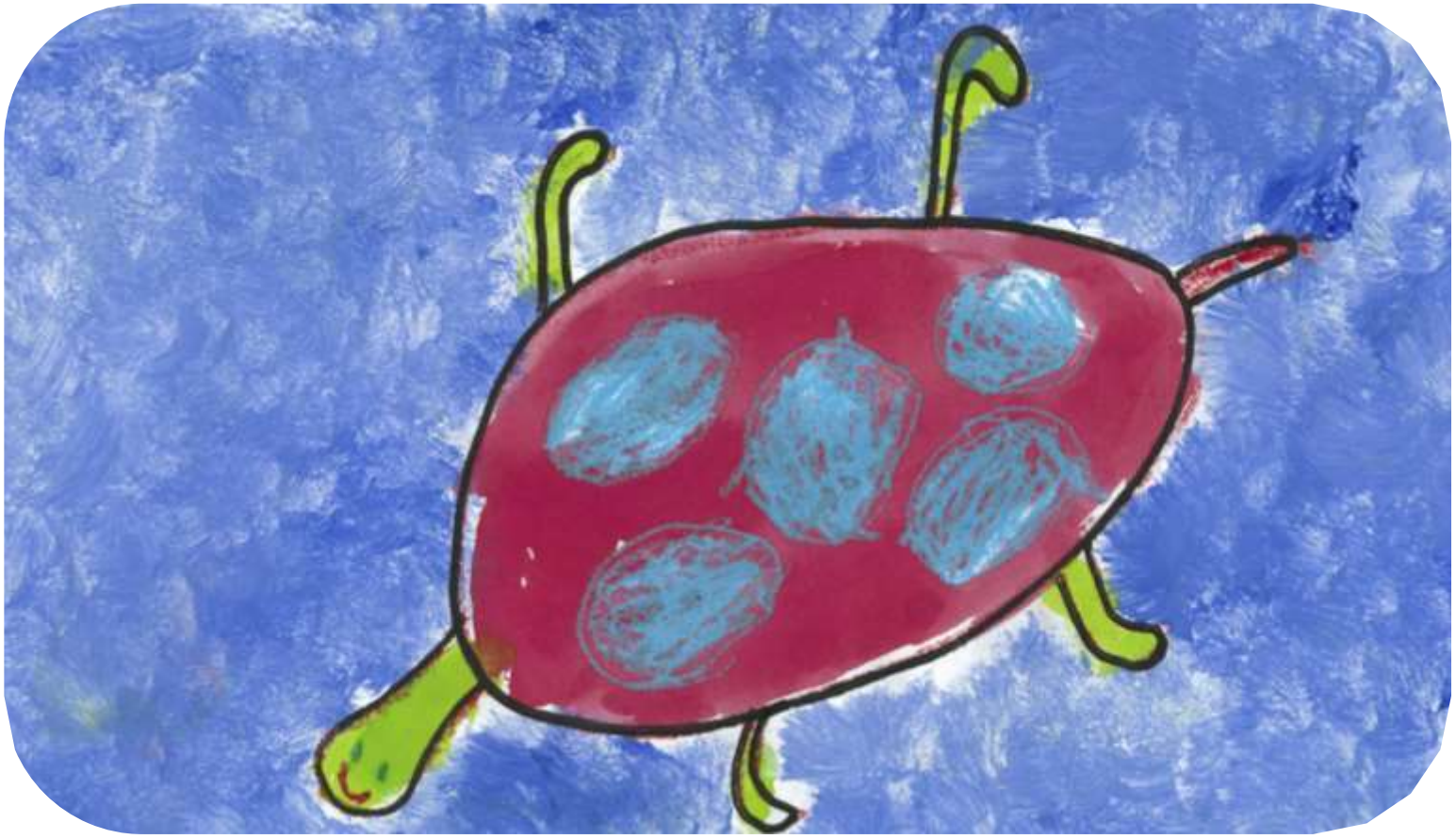
### Some final thoughts on prescribing

When I was a trainee and met the families of children with ID and autism, I realised through lengthy interviews that these were exceptional families managing children and adolescents with exceptional difficulties. Although UK child psychiatrists are more conservative in their approaches to medication, my mentor in the psychiatry of young people with intellectual disability taught me that to be helpful and make a difference, a clinician has to be

prepared to prescribe. In turn, I tell parents with these exceptional children and adolescents, that no amount of philosophy or ideology is sufficient and that **informed consent involves a trial of treatment(s)**. These medications are generally safe, if used responsibly and responsively, which is why they are so widely available. The collaboration with the tertiary disability services of the state government, enabled many troubled families with such complex problems to continue to care for their children (O'Brien, Espiner, *et al*; 2014). Part of that success, without facilities for hospitalisation but with available specially skilled emergency respite, was the proactive use of medications as described above for severe co-morbid psychiatric disorder.

Lastly, as a child psychiatrist whose exclusive area of skill in a specialist multidisciplinary mental health team is psychopharmacology, I also find that I regularly contribute **innovative and novel approaches to behavioural treatment**. One 17-year-old boy had complained of nausea and an urge to vomit, associated anxiety for years which symptoms had defeated his family and many clinicians. I reformulated his symptom as a stereotypic preoccupation, which I conceptualise as a transitional object. That meant it was cruel and distressing for others to try and take it away from him, but conversely, he could be placed in charge of this preoccupation, which he should confine to his own room until this thought went away or the transitional object was settled. The improvement was dramatic over the next days and weeks, with no further anxiety CBT, or medications.

Of the articles I have written for this magazine, the one I send families away with most often is: "the management of violence in young people with intellectual disability and the importance of safety" (Dossetor, 2016). Adolescence often leads to an intensification of violence which sometimes becomes a danger to others. As this article re-emphasises, challenging behaviour should first be treated with behavioural approaches. If they do not work, it is necessary to consider co-morbid psychiatry disorder(s) that can predispose to violence and that need treating or a trial of treatment. However, particularly by the age of adolescence and a child becomes as strong as their mother, the violence may become progressively independent of behavioural interventions or psychiatric disorder. In addition, the violence in the teen may be responded with by greater physical assertion by dad, trying to protect his partner and sometimes with his own frustration/burnout, which only contributes to the teen learning to be more physical. While most intervention for emotional escalation involves multimodal approaches to learning self-soothing skills, when a youngster is hurting others, and putting themselves and others at risk, parents have an ethical and legal responsibility to stop it. However, this cannot be done with roughness or anger but, in short, anger and violence has to managed with boredom, and loss of rewards and attention by parents. It is their and only their responsibility to ensure such safety in their home, and thereby teach the teenager what safe behaviour is. A professional can only help with the authority of the parent. However if the teen hurts someone, the parent (s) have a duty to stop it with a spell of chill-out time, in a safe room, which may need to be with the door shut for as long as necessary, to keep others safe and to



teach that hurting others is wrong. In all but those with extreme disability an adolescent can learn safe behaviour from experiencing such safety and de-escalation approaches. These teens and their families can become so escalated and over-aroused that no medication can de-arouse the situation, apart from a safe room. Relinquishment is often seen as an alternative, but such behaviours generally continue for the alternative care providers. If dangerous behaviour occurs in a public place, then police or security staff will need to be involved. Perhaps the lack of a collaborative framework and a safety net of interdisciplinary/interagency collaboration is increasing the frequency of this anxiety-provoking climax and showdown. This regular crisis predicament demonstrates that parents are not just theoretically in charge but can be practically in charge for as long as necessary to re-establish safety and to teach their wards such a basic lesson of respecting the safety of others.

This last paragraph also highlights a further issue of 'restrictive practices'. A parent has the authority to manage restriction on their own child or adolescent if it is in the interest and safety of the child or adolescent. **Psychotropic medications are not a restrictive practice, but for treating a psychiatric disorder**, just in the same way antibiotics to treat pneumonia, or chemotherapy to treat cancer is not a restrictive practice. If a child or teenager is becoming excessively anxious and dissociating and getting irritable, any intervention that can help modify it is psychiatric treatment. In most instances, that is the treatment that occurs and young people get on arrival with the police and ambulance in the emergency department. Such trips are highly traumatic for the young person with autism, and not so positive for all the emergency staff and a measure of failed community treatment. Accordingly, it can be necessary for parents to have some 'as needed' medications to avoid such calamities. It is appropriate to record the antecedents, behaviours and consequences to reduce the frequency of need of 'as needed' medication but a greater priority is that parents need to feel that they can be responsible for their child and keep them and the rest of their family safe. There may be limited specific research into the benefits of psychotropic medications in psychiatric subgroups of young people with intellectual disability, but there is also no doubt that the development of the subspecialty skills of child and adolescent psychiatry for children and adolescents with intellectual disability and autism has advanced dramatically in the efforts to help these young people to be managed in their families and other community settings and avoid various forms of out of home care or institutional settings. My creed is that any child with a disability and their family can have a 'good enough' quality of life. This is, without doubt, a greater and more specialised challenge than for a family with a child without disabilities. The co-morbid psychiatric and

"My creed is that any child with a disability and their family can have a 'good enough' quality of life"

behavioural disorders are the most difficult challenge to establishing that quality of life. Our aim is to switch distress, disruption and loss of adaptability and resilience to one of positive engagement and hope for such a 'good enough' quality of life. This requires the progressive development of adequate strong, flexible, responsive interdisciplinary, interagency community-based teams, to enable optimal developmental support and adjustment from the first day of realising something is wrong causing disability to the fulfilment of a long worthy life.

## References


Accordino, R., Kidd, C., Politte, L., Henry, C., McDougle, C. (2016). Pharmacological interventions in autism spectrum disorder. *Expert Opinion on Pharmacotherapy.* 17(7), 937-52.

Agency for Clinical Innovation, ACI (2017). www.aci.health.nsw.gov.au/__data/assets/pdf_file/0015/201732/Accessing-Health-Services-2017.pdf

Antshel, K.M., Phillips, M.H., Gordon, M., Barkley, R., Faraone, S.V. (2006). Is ADHD a valid disorder in children with intellectual delays? Clinical Psychology Review. 26(5), 555-72.

Bristol-Myers Squibb. U.S. Food and Drug Administration Approves ABILIFY® (aripiprazole) for the Treatment of Irritability Associated with Autistic Disorder in Pediatric Patients (Ages 6 to 17 Years). Press Release - November 20, 2009.

Cairns, R., Brown, J., Buckley, N. (2018). Clonidine exposures in children under 6 (2004–2017): a retrospective study. *Arch Dis Child* 2018;**0**:1–5. doi:10.1136/archdischild-2018-316026.

Cohen, S., Mulqueen, J.M., Ferracioli-Oda, E., Stuckelman, Z.D., Coughlin, C.G., Leckman, J.F. and Bloch, M.H. (2015). Meta-Analysis: Risk of tics associated with psychostimulant use in randomized placebo-controlled trials. JAACAP. 54(9), 728-736.

Cook, E.H., Rowlett, R., Jaselkis, C., Leventhal, B.L. (1992). Fluoxetine treatment of children and adults with autistic disorder and mental retardation. *Journal of the American Academy Child Adolescent Psychiatry. 31(4) 739-745.*

DeLong, G.R, Teague, L.A., McSwain Kamran, M. (1998). Effects of fluoxetine treatment in young children with idiopathic autism. *Dev Med Child Neurol. 40(8), 62-551.*

DeLong, G.R, Ritch, C.R., Burch, S. (2002). Fluoxetine response in children with autistic spectrum disorders: correlation with familial major affective disorder and intellectual achievement. *Dev Med Child Neurol*. 44(10), 652-9.

Dossetor, D. (2017). Young People with Learning Disabilities. Chapter 7 in *Child Psychology and Psychiatry: Frameworks for Clinical Training and Practice 3rd Edition.* (Eds) Skuse D, Bruce H, Dowdney L. Wiley Blackwell.

Dossetor, D. (2004). The Evolution of the 'Photon Catcher': Implications for Social Development and Autism. *Clinical Child Psychology & Psychiatry.* 9(3), 443-451. Sage Publications, US.

Dossetor, D. (2018). Catatonia: an under-recognised, acutely treatable condition in young people with intellectual disability/ASD. *Journal of Mental Health for Children and Adolescents with Intellectual and Developmental Disability.* 8(1): 4-10.

Dossetor, D. (2016). Violence in children and adolescents with an intellectual disability and the importance of safety. *Journal of Mental Health for Children and Adolescents with Intellectual and Developmental Disability. 7*(1): 4-13.

Dossetor, D. (2014). Diagnosis, Psychotropic Medication and Outcome of an audit of 150 child and adolescent neuropsychiatric patients. *Journal of Mental Health for Children and Adolescents with Intellectual and Developmental Disabilities: an Educational Resource.* 5(1): 4-9.

Dossetor, D.R., Liddle, J., Mellis, C. (1997) Measuring health outcome in paediatrics: development of the RAHC Measure of Function (MOF). *Journal of Paediatrics and Child Health*. 32(6), 519-524.

Dykens E. (2000). Annotation: Psychopathology in child with intellectual disability. *Journal of Child Psychology and Psychiatry.* 41 (4): 407-17.

Einfeld, S., Ellis, L., Emerson, E. (2011). Comorbidity of intellectual disability and mental disorder in children and adolescents: A systematic review. *Journal of Intellectual and Developmental Disability*, 36(2), 137-143. http://dx.doi.org/10.1080/13668250.2011.572548

Emerson, E., Hatton, C. (2007). Mental health of children and adolescents with intellectual disabilities in Britain. *British Journal of Psychiatry.* 191, p. 493-499.

Grunebaum, M., Mann, J. (2007). Safe use of SSRIs in young adults: how strong is evidence for new suicide warning? Current Psychiatry. 6(11).

Hedley, D., Uljarević, M., Foley, K.R., Richdale, A., Trollor, J. (2018). Risk and protective factors underlying depression and suicidal ideation in Autism Spectrum Disorder. *Depression Anxiety*. 35 (7):648-657. doi: 10.1002/da.22759.

Jaselkis, C., Cook, C., Fletcher, K, and Leventhal, B.L. (1992). Clonidine treatment of hyperactive and impulsive children with autistic disorder. Journal of Clinical Psychopharmacology. 53: 77-82.

Jobski, K., Hofer, J., Hoffmann, F., Bachmann, C. (2017). Use of psychotropic drugs in patients with autism spectrum disorders: a systematic review. *Acta Psychiatrica Scandinavica.* 135: 8-28.

Joshi, G., Petty, C., Wozniak, J., Henin, A., Fried, R., Galdo, M., Kotarski, M., Walls, S., Biederman, J. (2010). The Heavy Burden of Psychiatric Comorbidity in Youth with Autism Spectrum Disorders: A Large Comparative Study of a Psychiatrically Referred Population. *Journal of Autism and Developmental Disorders*. 40 (11), 1361–1370.

Larson, F., Wagner, A., Jones, P., Tantam, D., Lau, M., Baron-Cohen, S. & Holland, A. (2016) Psychosis in Autism: comparison of the features of both conditions in a dually affected cohort. *BJPsych*. DOI 10.1192/bjpsych.bp.116.187682 S

O'Brien, P., Espiner, D., Arnold, S., Riches, V., Roberts, L. (2014). *Evaluation report on the Developmental Psychiatry Clinic: A Partnership between The Children's Hospital at Westmead and Statewide Behaviour Intervention Service (ADHC).* Centre for Disability Studies, University of Sydney: http://static1.1.sqspcdn.com/static/f/551166/26540531/1442370712890/

> “Parents need to feel that they can be responsible for their child and keep them and the rest of their family safe”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Plantier, D., Luauté, J., SOFMER group. (2016). Drugs for behavior disorders after traumatic brain injury: Systematic review and expert consensus leading to French recommendations for good practice. *Annals of Physical and Rehabilitation Medicine.* 59 (1), 42-57.

Podcasts on Prescribing in children and adolescents with intellectual disability, 2017. Department of Developmental Disability Neuropsychiatry (3DN) https://3dn.unsw.edu.au/
*Episode 1:* Recognising symptoms of mental illness in children and adolescents with an intellectual disability
*Episode 2:* Deciding if, when and what to prescribe
*Episode 3:* Instituting, monitoring and discontinuing psychotropic treatment
*Handout:* Guidelines for an assessment summary

Ratcliffe, B., Wong, M., Dossetor, D., Hayes, S. (2015). The Association Between Social Skills and Mental Health in School-Aged Children with Autism Spectrum Disorder, with and without Intellectual Disability. *Journal of Autism and Developmental Disorders.* 45(8).

Radcliffe, B., Wong, M., Dossetor, D., Carroll, L., Brice, L., Graeme, V. (2017). *Westmead Feelings Program I: Emotion-based Learning for Autism on-line training.* Australian Council for Educational Research.

Trollor, J., Salomon, C., Curtis, J., Watkins, A., Rosenbaum, S., Samaras, K., Ward, P. (2016). Positive cardiometabolic health for adults with intellectual disability: an early intervention framework. *Australian Journal of Primary Health* 22(4) 288-293

Simonoff, E., Pickles, A., Charman, A., Chandler, S., Loucas, T., Baird, G. (2008). Psychiatric Disorders in Children With Autism Spectrum Disorders: Prevalence, Comorbidity, and Associated Factors in a Population-Derived Sample. *Journal of the American Academy of Child & Adolescent Psychiatry.* 47 (8), 921-929.

Is statewide delivery of stepping stones Triple P Effective? Research Program Findings at a glance, Sept 2018. https://pfsc.psychology.uq.edu.au/files/2129/The%20Stepping%20Stones%20Triple%20P%20Research%20Project%20Report1.pdf

Stewart, M., McGillivray, J. A., Forbes, D., Mohebbi, M., & Austin, D. W. (2016). Posttraumatic stress symptoms in parents of children with ASD. *Manuscript accepted for review with Journal of Anxiety Disorders*

Singhal, D., Dossetor, D., Wong, M. & Butterworth, T. (2018). A pilot multidisciplinary clinic at an Aspect Autism School by a specialist mental health team. *Journal of Mental Health for Children and Adolescents with Intellectual and Developmental Disabilities: an Educational Resource.* 9(2): 4-11.

Stigler, K.A., Desmond, L.A., Posey, D.J., Wiegand, R.E,, McDougle, C.J. (2004). A naturalistic retrospective analysis of psychostimulants in pervasive developmental disorders. *J Child Adolesc Psychopharmacol*.56-49 :(1)14

Tyrer, P., Oliver-Africano, P.C., Ahmed, Z., Bouras, N., Cooray, S., Deb, S., Murphy, D., Hare, M., Meade, M., Reece, B., Kramo, K., Bhaumik, S., Harley, D., Regan, A., Thomas, D., Rao, B., North, B., Eliahoo, J., Karatela, S., Soni, A., Crawford, M. (2008). Risperidone, haloperidol, and placebo in the treatment of aggressive challenging behaviour in patients with intellectual disability: a randomised controlled trial. *Lancet*. 371(9606):57-63. doi: 10.1016/S0140-6736(08)60072-0.

Warren, A. in Aspect (2013). *We Belong: The experiences, aspirations and needs of adults with Asperger’s disorder and high functioning autism.* Autism Spectrum Australia (Aspect).