

A BRIEF OVERVIEW OF PSYCHOTROPIC MEDICATION USE FOR PERSONS WITH INTELLECTUAL DISABILITIES

INTRODUCTION

Individuals with intellectual disabilities are not uncommonly prescribed psychotropic medications. Too often, historically, such agents have been used to try to improve behavioral control without adequate understanding of the antecedents, purpose, and reinforcement of the problematic behavior. While an individual with an intellectual disability may experience a depressive, anxiety, or psychotic disorder in the more typical sense some individuals experience a pattern of anxiety/alarm/arousal leading to affective dysregulation and impulsive behavior. The anxiety can be stimulated by environmental change, physical discomfort, cues related to past trauma, overstimulation, boredom, confusion, or other unpleasant states. Addressing what is causing the distress or reinforcing the behavioral response is the most important thing (though not always easy).

Psychotropic medications may be useful for treating more typically presenting psychiatric illnesses as well as being part of more comprehensive plans to attenuate risk behaviors. An individual with intellectual disabilities who seems sad, is withdrawn, shows low energy and lack of interest, is eating or sleeping more or less, or may be more irritable could be suffering from a depression that needs medication treatment. On the other hand an individual with intellectual disabilities who demonstrates aggression, property destruction, self-injury, or other forms of “dyscontrol” may be helped by medication aimed at blunting the anxiety/alarm and/or blocking its escalation into aggression or other dangerous behaviors. In such instances the medications are just part of an overall strategy or plan to help the individual avoid the “need” to engage in such behavior.

However, some of the psychotropic medications we use have more risk for individuals with cognitive dysfunction and intellectual disabilities than for others. Some medications do not pose risks, but managing them for an individual with an intellectual disability may be more complicated due to limits related to education, cooperation with labs and other tests, dietary restrictions, and so forth. Below is a brief summary of more commonly prescribed agents and the risks they may pose for individuals with intellectual disabilities.

COMMONLY USED PSYCHOTROPIC MEDICATIONS

Below is information regarding psychotropic medications commonly used for individuals with an intellectual disability. It does not cover all of the potential side effects, but is focused on those of particular attention with this group of individuals.

ANTICHOLINERGIC/ANTIHISTAMINIC AGENTS: benztropine (Cogentin), trihexyphenidyl (Artane), diphenhydramine (Benadryl) and hydroxyzine (Vistaril) are the agents used most often. **Diphenhydramine and hydroxyzine**, primarily antihistaminic agents, are used to treat extrapyramidal side effects from antipsychotics. They are also used to treat agitation, anxiety, and aggression. **Benztropine and trihexyphenidyl are used to treat** extrapyramidal/parkinsonian side effects from antipsychotic medications. The problem with all of these agents is that they can impede cognitive function and the anticholinergic agents can cause constipation. Decreasing the ability of an individual with an intellectual disability to attend, learn, and remember potentially adds to an already compromised cognitive functioning. The risk of bowel obstruction is more serious for individuals with an intellectual disability and adding an agent with constipating effects adds to this risk.

| Anticholinergics | Indication | Possible Side Effects |
|----------------------------|------------------------|---|
| benztropine (Cogentin) | anxiety | sedation, decreased cognition, constipation |
| trihexyphenidyl (Artane) | EPS stiffness, tremors | sedation, decreased cognition, constipation |
| diphenhydramine (Benadryl) | anxiety | sedation, decreased cognition |
| hydroxyzine (Vistaril) | insomnia | sedation, decreased cognition |

Note: All antipsychotics and antidepressants have anticholinergic properties too. However older tricyclic antidepressant medications such as **amitriptyline, doxepin, imipramine, and nortriptyline** and lower potency typical antipsychotics (chlorpromazine, thioridazine, mesoridazine, loxapine) and some atypical antipsychotics (clozapine, quetiapine) have more anticholinergic effects compared to other agents in their categories.

BENZODIAZEPINES: Lorazepam (Ativan), clonazepam (Klonopin), diazepam (Valium), alprazolam (Xanax), and others. These agents may compromise cognition either directly or by their sedating effects. In individuals who already have cognitive limits this can render them more limited, decreasing their ability to learn or remember. In addition, such agents can be disinhibiting, more so in individuals with cognitive dysfunction. While often used to try to control behavior, the combination of further cognitive impediment and/or disinhibition can make things worse. Further, they can create an addiction and the added risks related to both habituation and acute withdrawal if the medication is stopped suddenly.

| Benzodiazepines | Indication | Possible Side Effects |
|-----------------------|------------|--|
| lorazepam (Ativan) | anxiety | sedation, decreased cognition, disinhibition, addiction, risk with sudden withdrawal |
| clonazepam (Klonopin) | insomnia | sedation, decreased cognition, disinhibition, addiction, risk with sudden withdrawal |
| diazepam (Valium) | seizures | sedation, decreased cognition, disinhibition, addiction, risk with sudden withdrawal addiction, |
| alprazolam (Xanax) | | sedation, decreased cognition, disinhibition, addiction, risk with sudden withdrawal, shorter acting (so blood levels more rapidly increase then decrease) |

LITHIUM: Lithium can produce cognitive disturbances, carries the risk of being nephrotoxic, can produce hypothyroidism, and must be regularly monitored for drug levels, thyroid function, and renal function. While it can be effective for affective instability and bipolar disorder, experience has shown that it can be difficult to manage in individuals with an intellectual disability.

| Lithium | Indication | Possible Side Effects |
|---------|---|---|
| Lithium | bipolar disorder recurring depression emotional instability | confusion, decreased cognition kidney damage thyroid dysfunction regular lab work required; levels can increase with dehydration slow heart rate (bradycardia) nausea, vomiting excessive thirst weight gain dry skin, rash and inflammation of hair follicles (folliculitis), common |

TRADITIONAL ANTIPSYCHOTIC AGENTS: Haloperidol, fluphenazine, thioridazine, perphenazine, trifluoperazine, chlorpromazine, etc. The high-potency neuroleptics (haloperidol, fluphenazine, trifluoperazine) have the benefits of causing less weight gain/metabolic syndrome or anticholinergic risks. However, they can produce movement disorders, which often lead to the use of an anticholinergic agent which can compromise already limited cognitive function. The low-potency agents such as chlorpromazine and thioridazine have significant anticholinergic effects and a higher risk of sedation, both of which compromise cognitive functioning. The anticholinergic effects also decrease bowel motility which is a risk for individuals with intellectual disabilities. All of these drugs can be sedating and therefore suppress cognition. Chlorpromazine appears to have more risk of lowering the seizure threshold whereas haloperidol and fluphenazine are less likely to do so.

| Traditional Antipsychotic Agents: High Potency | Indication | Possible Side Effects |
|---|--------------------|--|
| haloperidol (Haldol) | psychosis | sedation constipation stiffness, tremors tardive dyskinesia |
| fluphenazine (Prolixin) | pervasive dev. d/o | sedation constipation stiffness, tremors tardive dyskinesia |
| trifluoperazine (Stelazine) | | sedation constipation stiffness, tremors tardive dyskinesia |
| thiothixene (Navane) | | sedation constipation stiffness, tremors tardive dyskinesia |

| Traditional Antipsychotic Agents: Mid-Potency | Indication | Possible Side Effects |
|--|-------------------|--|
| perphenazine (Trilafon) | psychosis | sedation constipation stiffness, tremors tardive dyskinesia |

| Traditional Antipsychotic Agents: Low Potency | Indication | Possible Side Effects |
|--|-------------------|--|
| thioridazine (Mellaril) | psychosis | More sedating, cognitive decrease, constipation dysphasia confusion tremors tardive dyskinesia |
| chlorpromazine (Thorazine) | | More sedating, cognitive decrease, constipation dysphasia confusion tremors tardive dyskinesia |

“ATYPICAL” ANTIPSYCHOTIC AGENTS: olanzapine, risperidone, clozapine, aripiprazole, quetiapine, etc. These agents are more gentle with regard to extrapyramidal side effects, but may also decrease cognition in individuals with intellectual disabilities as well as carry risks associated with metabolic syndrome, some more than others. These risks require the regular monitoring of weight, lipids, and glucose as well as HgA1C in some cases. Clozapine has more risk of lowering the seizure threshold whereas risperidone has less.

| Atypical Antipsychotic Agents | Indication | Possible Side Effects |
|-------------------------------|------------------|---|
| olanzapine (Zyprexa) | psychosis | Sedation, weight gain, increased cholesterol, increased blood sugar/diabetes |
| risperidone (Risperidol) | bipolar disorder | Sedation, weight gain, increased cholesterol, increased blood sugar/diabetes |
| clozapine (Clozapine) | | Sedation, weight gain, increased cholesterol, increased blood sugar/diabetes. May decrease white blood cells/weekly labs needed. |
| quetiapine (Seraquel) | | Sedation, weight gain, increased cholesterol, increased blood sugar/diabetes |

SSRIs: Fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), fluvoxamine (Luvox), etc., and **SNRIs** venlafaxine (Effexor), and duloxetine (Cymbalta): These agents can be useful in helping individuals with an intellectual disability who have symptoms of depression or anxiety, both of which may present in atypical fashion especially in individuals lacking effective verbal capacities. Generally, they can be used without suppressing cognition, although there is a low risk of lowering the seizure threshold. All have risk of precipitating mania or lesser variations. The SSRIs may cause a kind of “wooziness” when going up or down on the doses that settles with time. All may result in some gastrointestinal symptoms for some people.

| SSRIs | Indication | Possible Side Effects |
|-----------------------|----------------|--|
| fluoxetine (Prozac) | depression | Activating for some. May increase anxiety, restlessness, irritability. |
| sertraline (Zoloft) | anxiety | irritability |
| paroxetine (Paxil) | panic disorder | May be more calming/sedating |
| fluvoxamine (Luvox) | OCD | |
| SNRIs | PTSD | nausea, diarrhea, weight gain |
| venlafaxine (Effexor) | | |
| duloxetine (Cymbalta) | | |

ANTICONVULSANTS: A number of individuals with intellectual disabilities have seizure disorders and I will not address all of the anticonvulsants that may be used for his purpose. **Carbamazepine (Tegretol), oxcarbazepine (Trileptal) and divalproex (Depakote, Depakote ER)** are more commonly used for mood instability and affective dysregulation than the others. The risks related to these agents are not distinct for individuals with intellectual disabilities. The risks associated with hyponatremia, decreased WBC counts, and liver function with carbamazepine and oxcarbazepine are the same though their management can be more complicated. Divalproex can affect platelets, liver function, and, occasionally the pancreas as well as cause weight gain. All can cause sedation that impedes cognitive functioning. Valproic

acid (except for the oral liquid preparation) should not be used for persons with intellectual disabilities due to the 33% risk in GI bleeding and other GI related complications.

| Anticonvulsants | Indication | Possible Side Effects |
|------------------------------------|-----------------------|--|
| carbamazepine (Tegretol) | bipolar disorder | Sedation, decreased sodium (delirium/seizures) decrease liver function decreased white blood cells regular lab work |
| oxcarbazepine (Trileptal) | emotional instability | Sedation, decreased sodium (delirium/seizures) decrease liver function decreased white blood cells regular lab work |
| divalproex (Depakote, Depakote ER) | bipolar disorder | sedation emotional instability weight gain decreased platelets pancreatitis |

DOSAGES: As with all patients dosages have to be individualized to get the best balance of clinical benefit versus unwanted side effects. As with geriatric individuals, individuals with intellectual disabilities may require lower doses to achieve the needed clinical benefit and avoid cognitive or gastrointestinal side effects. It is also important to discontinue medications that have not produced the anticipated benefit. Too often, more medications are added while behaviors continue and side effects increase.