Rapid Tranquillization of Adults with Crisis Behaviours

This tool was developed to help primary care providers in community and Emergency Department settings whose patients with DD are exhibiting crisis behaviours and require rapid tranquillization.

TABLE 1: GOALS AND CONSIDERATIONS IN RAPID TRANQUILLIZATION OF ADULTS WITH DD	
Goals	• Similar for all people exhibiting crisis behaviours, including those with DD. • Reduce agitation and associated risk of harm to the patient, and where applicable, to others, in the safest and least intrusive manner possible.
Specific Considerations regarding Psychotropic Medications for Adults with DD	• Should guide management decisions, including in crisis situations. • Often on multiple medications and at increased risk of adverse medication interactions. • Some may have atypical responses or side-effects at lower doses, and some cannot describe harmful or distressing effects of the medications that they are taking [1]. • Adults with DD associated with Autism Spectrum Disorders (ASD), about 30% of adults with DD, may react paradoxically to new psychotropic medications (e.g., when given a benzodiazepine, they may become agitated rather than sedated). • When considering psychotropic medications for adults with DD it is important to elicit their history with such medications and the patient's or caregivers preferences.
Initial treatment	• **Use a single medication initially, preferably a benzodiazepine at a sufficient dose** (e.g., lorazepam 4 mg), and wait the indicated time prior to repeating the dose. Experienced Emergency Department psychiatrists who work with adults with DD report that most crisis behaviours can be managed with **10 mg or less of lorazepam**. This is preferable when effective, as it avoids the distressing side effects that often accompany antipsychotics. • Given that antipsychotic medications are often inappropriately prescribed for adults with DD [1], reducing the exposure of adults with DD exhibiting crisis behaviours to these medications would help to mitigate this problem.

Staff involved in rapid tranquillization should understand risks, and consider various precautions and interventions to avoid or manage possible complications. Monitoring of patients receiving rapid tranquillization in Emergency Department settings should adhere to local protocols and should include parameters outlined below.

TABLE 2: RISKS, PRECAUTIONS, MONITORING	
Risks	• Over sedation • Respiratory depression • Cardiovascular complications (e.g., QT prolongation) • Acute dystonic reactions
Precautions	• Crash cart with bag-valve mask (BVM) and airway equipment available • Staff trained in Basic Life Support • Review prior EKG before introducing antipsychotic medications • Benztropine available for acute dystonic reactions • Flumazenil IV available for oversedation
Physical Monitoring	• Temperature (if increased, urgently assess for neuroleptic malignant syndrome) • Blood pressure • Pulse • Respiratory rate (with continuous pulse oxymetry in unresponsive patients)

TABLE 3A: INITIAL STEPS TO RAPID TRANQUILLIZATION [2]

	Modifying Circumstances	Choice (s)	Usual Oral Dosage	Notes
STEP 1	Attempt non-medication interventions, if appropriate	1. De-escalation 2. Time out in a safe seclusion room		
STEP 2	PATIENT IS ALREADY RECEIVING AN ORAL OR DEPOT ANTIPSYCHOTIC; AVOID GIVING ANOTHER ANTIPSYCHOTIC MEDICATION [a]	Lorazepam [d]	1-4 mg SL (sublingual)	Repeatonceafter45-60minutes ifinsufficienteffect.Gotostep3 if two doses fail to produce desired effect or sooner if the patient or others are at significant risk for harm
	PATIENT IS NOT ALREADY RECEIVING AN ORAL OR DEPOT ANTIPSYCHOTIC OR IF PATIENT IS ACUTELY PSYCHOTIC [a,b,c]	Olanzapine [3] OR	10 mg PO	RapidlydissolvingformisZydis® AVOID combining with lorazepam or other benzodiazepine [e]
	AVOID combining two antipsychotics WAIT 4 hours before repeating same antipsychotic GO TO STEP 3 if second dose of lorazapam or antipsychotic fails to produce desired effect or sooner if the patient or others are at significant risk for harm	Quetiapine OR Risperidone [4, 5, 6, 7] OR Loxapine OR Haloperidol [b]	100-200 mg PO 1-2 mg PO 25 mg PO 5 mg PO	ANY ONE of these CHOICES WITH or WITHOUT Lorazepam [d] 1-4 mg SL (sublingual) Repeat lorazepam once after 45-60minutesifinsufficienteffect

a. The choice of a new medication depends on other medications being taken. If the adult with DD is established on antipsychotic medications, lorazepam alone may be added. If the adult with DD is receiving benzodiazepines regularly, an antipsychotic alone may be added. Most patients respond best to a combination of an antipsychotic and lorazepam but an antipsychotic or benzodiazepine can also be used alone. Monitor vital signs as appropriate (see Table 2).

b. Before giving antipsychotics (particularly haloperidol) consider reviewing a prior EKG (or obtaining one), if possible, to assess the presence of QT prolongation. On an EKG, the QT interval should be less than 450-500 milliseconds.

c. **Due to the risk of acute dystonic reactions** (incidence is about 6% with haloperidol) ensure benztropine 1-2 mg IM or procyclidine 5-10 mg IM is available.

d. In patients receiving clozapine, lorazepam is contraindicated.

e. Combining olanzepine with lorazepam or other benzodiazepines should be avoided due to the risks of excessive sedation.

TABLE 3B: NEXT STEPS TO RAPID TRANQUILLIZATION – ADDITIONAL STEPS IN EMERGENCY DEPARTMENT AND HOSPITAL SETTINGS [f,g,h,i]

	Modifying Circumstances	Choice (s)	Usual IM Dosage	Notes
STEP 3	Oral therapy is refused, has failed or is insufficient for the level of crisis [f]	Lorazepam [8] OR	1-4mg IM Mix 1:1 with sterile saline	Flumazenil IV should be available for benzodiazepine-induced respiratory depression Flumenazil dosing [12] Initial: 0.2 mg IV over 15 seconds Max: 1 mg
		Olanzapine [i, 9, 10]	10 mg IM	DO NOT combine with IM benzodiazepine [11]
	If PO or IM antipsychotic given then WAIT 4 hours before repeating the same antipsychotic IM [f, g, h]	OR Loxapine OR Haloperidol [g, 10]	25 mg IM 5 mg IM	Either <u>ONE</u> of these CHOICES WITH or WITHOUT Lorazepam 1-2 mg IM Mix 1:1 with sterile saline Use separate syringes for loxapine and lorazepam Repeat lorazepam 1-2 mg IM after 45-60 minutes if insufficient effect
STEP 4	Refractory severe symptoms [j]	Consider intravenous (IV) medications (e.g., diazepam), the use of which is beyond the scope of these guidelines		

f. Consider intramuscular (IM) medication when oral therapy is refused, has failed or is insufficient for the level of crisis. Most patients respond best to a combination of an antipsychotic and lorazepam but an antipsychotic or benzodiazepine can also be used alone. Monitor vital signs as appropriate (see Table 2).

g. Before giving antipsychotics (particularly haloperidol) consider reviewing a prior EKG (or obtaining one), if possible, due to the risk of cardiac arrhythmias associated with QT prolongation. On an EKG, the QT interval should be less than 450-500 milliseconds. IM haloperidol should be considered a third line treatment option due to its increased risk of adverse effects.

h. **Due to the risk of acute dystonic reactions** (incidence is about 6% with haloperidol) ensure benztropine 1-2 mg IM or procyclidine 5-10 mg IM is available.

i. Recommended by National Institute for Clinical Excellence (NICE – UK) for moderately severe behavioural disturbance only.

j. **Refractory, severe symptoms:** a) Confirm the patient's incapacity to consent and document. Even if incapable, seek the patient's views on treatment options and their assent to a plan; b) Proceed with management while making efforts to involve his or her Substitute Decision Maker; c) Consult with an experienced colleague in psychopharmacology or anaesthesia.

Tool Development Process:
Primary care of adults with developmental disabilities: Canadian consensus guidelines [1] address considerations and make recommendations regarding the use of psychotropic medications for adults with developmental disabilities.

For development of this tool, guidelines on rapid tranquillization were reviewed. Currently there are no published standard Canadian guidelines regarding rapid tranquillization for the general population or for adults with DD. The recent paper of Taylor [2] from the United Kingdom, which gave recommendations for management of acutely disturbed behaviour involving mainly the non-DD population, was used as a base. Emergency physicians and psychiatrists with clinical expertise in DD-specific considerations in rapid tranquillization were consulted and their input was incorporated. Recommendations were adapted to reflect common practices and available medications in Canada.

Adapted from Taylor[2] by William F. Sullivan MD and David Joyce MD.

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