


solution-s
www.solution-s.ca

Antidepressants

Terry Broda, RN(EC), BScN, NP-PHC, CDDN
Elizabeth Kacew, RN(EC), MScN, NP-PHC

September 15, 2014




solution-s

*Depression is easily missed in people who have social and communication disabilities, although it is probably **more common** in people with **intellectual disabilities** and people **with autism** than in the general population.*

Sheila C Hollins (UK)

www.solution-s.ca



solution-s

Symptoms of depression

- Early morning waking
- Sleeping too much
- Losing or gaining weight
- Loss of appetite
- Low mood with or without diurnal variation
- Anxiety
- Social withdrawal
- Loss of sexual interest
- Loss of confidence
- Self blame and inappropriate guilt
- Inability to make decisions
- Difficulty concentrating

www.solution-s.ca

Symptoms of depression



- Loss of functional or self-care skills
- Thoughts of death
- Suicidal thoughts/actions or other self harm
- Depressive delusions
- Aggression
- Irritability
- Slowed down thinking

www.solutions-s.ca

DSM-IV Criteria for Major Depression and Behavioral Equivalents in Individuals with Developmental Disabilities



Five or more of the following symptoms must be present for a minimum of 2 weeks.
Symptoms 1 or 2 must be one of the five

DSM-IV Criteria	Observed Equivalents in Individuals with Developmental Disabilities	Objective Behaviors Which Might be Measured
1) Depressed Mood, irritable mood in children or adolescents	Apathetic facial expression with lack of emotional reactivity, irritability, somatic complaints	Measure rates of smiling response to preferred activities, crying episodes, somatic complaints
2) Generalized decrease in interest or pleasure by self-report or observed apathy	Withdrawal, lack of reinforcers, refusal to participate in previously favored activities	Measure time spent in room, etc.
3) Significant decrease in appetite or weight loss (5% body weight in one month) or significant increase in appetite or weight gain (5% body weight in one month)	Significant increase or decrease in weight (5% in one month) Significant increase or decrease in appetite (daily)	Measure meal refusals, changes in weight, food stealing or hoarding
4) Insomnia or hypersomnia	Change in total sleep time	Use sleep chart to record sleep

www.solutions-s.ca

DSM-IV Criteria for Major Depression and Behavioral Equivalents in Individuals with Developmental Disabilities



DSM-IV Criteria	Observed Equivalents in Individuals with Developmental Disabilities	Objective Behaviors Which Might be Measured
5) Psychomotor activity or retardation	Agitation may present SIB or aggression, pacing, running away, restlessness, inability to complete ADLs	Time spent in bed, spontaneous verbalization, pacing
6) Fatigue or loss of energy	Retardation may represent as decreased energy, passivity	Napping at workplace, sleep charts
7) Feelings of worthlessness/ inappropriate guilt	Statements such as, "I'm retarded", "nobody likes me"	Requires expressive language if symptoms are present
8) Decreased concentration/ indecisiveness/ diminished ability to think	Change in workplace performance, regression of skills	Use workplace performance data
9) Recurrent thought of death/ suicidal ideation	Perseveration on the deaths of family members and friends, preoccupation with funerals, deliberately potentially lethal acts, SIB	Requires expressive language to determine if symptoms are present

www.solutions-s.ca

Aetiology



Depression is **not** caused by **a single factor**. There are probably many causes, and the causes can interact with each other.

Vulnerability factors may be:

- **biological**, e.g. genetic or associated with physical illness.
- **psychological**, e.g. abuse or bereavement
- **social**, e.g. relationship problems, poverty or boredom.

www.solution-s.ca

Stressors

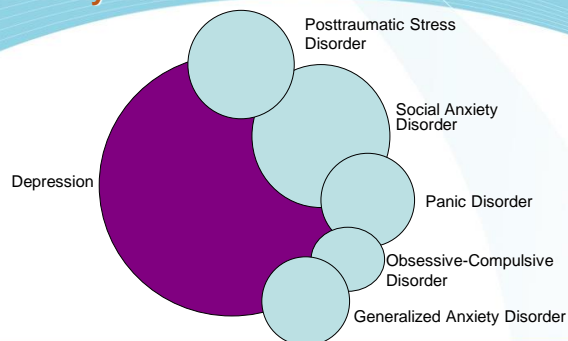


Stressors can be very varied, and typically have a **perceived element of loss or threat** such as:

- bereavement
- caregiver moving to a new job (intense reaction!)
- change in routine
- moving residence
- being a victim of crime and/or abuse
- major illness or a chronic painful condition, e.g.: UTIs, AOMs, cellulitis, constipation, GERD, migraines, & SE of Rx

www.solution-s.ca

Spectrum of Depression and Anxiety Disorders



www.solution-s.ca

Other indications



- TCA, duloxetine/venlafaxine : chronic pain, fibromyalgia, migraine, premenstrual disorder
- SSRI : premenstrual disorder
- Bupropion : smoking cessation, ADHD
- Trazadone : bulimia, insomnia, challenging behaviors for those with dementia

www.solution-s.ca

DO NOT MEDICATE ENVIRONMENT

www.solution-s.ca

Antidepressants



• Tricyclic Antidepressants

Amitriptyline (Elavil), clomipramine (Anafranil), imipramine (Tofranil), doxepine (Sinequan)

• Monoamine Oxidase Inhibitors (*reversible*)

Phenelzine (Nardil), tranylcypromine (Parnate), moclobemide (Manerix)

• Selective Serotonin reuptake Inhibitors (SSRI)

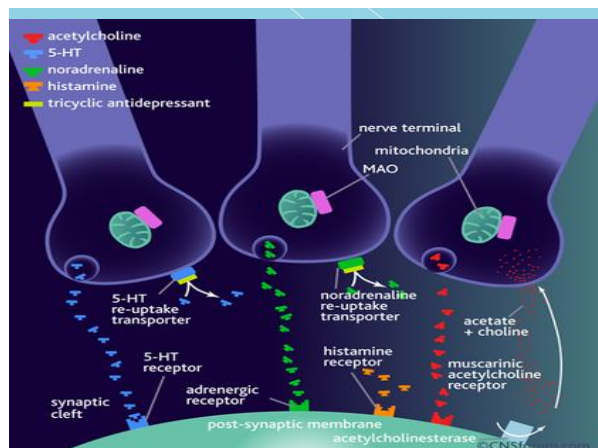
Escitalopram (Cipralex), Citalopram (Celexa), fluoxetine (Prozac), Paroxetine (Paxil), fluvoxamine (Luvox), sertraline (Zoloft)

www.solution-s.ca

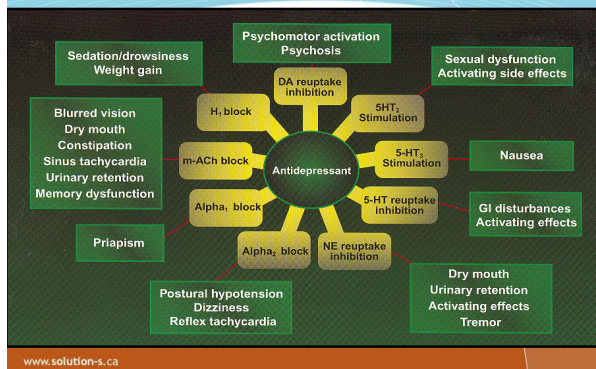


- www.solution-s.ca





Adverse Effects of Neurotransmitter Activity and Receptor Binding



Side Effects



Adverse Reactions ^a								
Drug	Sedation	Orthostatic Hypotension	Constipation/Dry Mouth	Cardio-toxicity	Insomnia	Weight Gain	Jitteriness	Seizures
amitriptyline	+++	+++	+++	+++	+	+++	0	++
amoxapine	+	++	+++	++	++	0/+	0/+	++
clomipramine	+++	++	+++	++	+	++	++	+++
desipramine	+	+	+	+++	+	+	++	+
doxepin	+++	++	+++	++	+	+++	+	+
imipramine	++	+++	++	+++	++	+++	+++	++
maprotiline	++	+	++	++	+	++	++	+++
nortriptyline	+	+	++	++	+	+	++	+
protriptyline	0/+	++	+++	++	+++	+	++	+
trimipramine	+++	++	++	++	+	++	+	+

Note. Adapted from Maxmen (1990) and Preskom (1993).

a +++ = marked effects, ++ = moderate effects, + = weak effects, 0 = none

Reiss S., & Aman, M. (ed's). (1998).

www.solution-s.ca

Frequency of Adverse Reactions to Cyclic Antidepressants at Therapeutic Doses

Reaction	Amitriptyline	Clomipramine	Desipramine	Doxepin	Imipramine	Nortriptyline	Protriptyline	Trimipramine	Amoxapine	Maprotiline
CVS Effects										
Decreases, sedation	> 30%	> 2%	> 2%	> 30%	> 30%	> 2%	< 2%	> 30%	> 30%	> 30%
Ischemia	> 2%	> 10%	> 2%	> 2%	> 10%	< 2%	> 10%	> 2%	> 10%	< 2%
Excitement, hypomania ^a	< 2%	< 2%	> 2%	< 2%	> 10%	> 2%	> 10%	< 2%	> 2%	> 2%
Disorientation/confusion	> 10%	> 2%	-	< 2%	> 2%	> 10%	-	> 10%	> 2%	> 2%
Headache	> 2%	> 2%	< 2%	< 2%	> 10%	< 2%	-	> 2%	> 2%	> 2%
Anxiety, fatigue	> 10%	> 2%	> 2%	> 2%	> 10%	> 10%	> 10%	> 2%	> 2%	> 2%
Anticholinergic Effects										
Dry mouth	> 30%	> 30%	> 10%	> 30%	> 30%	> 10%	> 10%	> 10%	> 30%	> 30%
Blurred vision	> 10%	> 10%	> 2%	> 10%	> 10%	> 2%	> 10%	> 2%	> 2%	> 10%
Constipation	> 10%	> 10%	> 2%	> 10%	> 10%	> 10%	> 10%	> 10%	> 10%	> 10%
Secretion	> 10%	> 10%	> 2%	> 10%	> 10%	> 10%	> 10%	> 10%	> 10%	> 10%
Salivary excretion ^b	> 2%	> 2%	-	< 2%	> 10%	< 2%	< 2%	< 2%	> 10%	> 2%
Antidepressant Effects										
Unspecified	> 20%	< 20%	< 2%	> 20%	< 2%	-	< 2%	> 20%	> 2%	> 2%
Tremor	> 10%	> 10%	> 2%	> 10%	> 10%	> 10%	> 2%	> 10%	> 2%	> 10%
Cardiovascular Effects										
Orthostatic hypotension/dizziness	> 10%	> 10%	> 2%	> 10%	> 10%	> 2%	> 10%	> 10%	> 10%	> 2%
Tachycardia, palpitations	> 10%	> 10%	> 10%	> 2%	> 10%	> 2%	> 2%	> 10%	> 10%	> 2%
ECG changes ^c	> 10%	> 10%	> 2%	> 20%	> 10%	> 20%	> 10%	> 10%	< 20%	< 20%
Cardiac arrhythmia	> 2%	> 2%	> 2%	> 2%	> 2%	> 2%	> 2%	> 2%	< 2%	< 2%
QT delay ^d	> 2%	> 10%	> 2%	< 2%	> 10%	< 2%	-	< 2%	> 2%	> 2%
Genotoxic, rash	> 2%	> 2%	> 2%	< 2%	> 2%	< 2%	< 2%	< 2%	> 10%	> 10%
Weight gain (over 6 kg)	> 10%	> 10%	> 2%	> 10%	> 10%	> 2%	< 2%	> 10%	< 2%	> 10%
Sexual disturbances	> 2%	> 10%	> 2%	> 2%	> 10%	< 2%	< 2%	< 2%	> 2%	< 2%
Seizures ^e	< 2%	< 20%	< 2%	< 2%	< 2%	< 2%	< 2%	< 2%	< 20%	< 20%

^a None reported in literature present. ^b None likely in bipolar patients. ^c Primarily in the elderly. ^d ECG abnormalities usually without cardiac injury. ^e Seizures reported in literature present. ^f No effect on REM sleep. ^g In non-epileptic patients. ^h Higher incidence if dose above 250 mg daily clomipramine, 225 mg daily nortriptyline, or 300 mg daily amitriptyline. ⁱ Conduction delays: increased PR, QRS, or QTc interval.

www.solution-s.ca

Virani, Bezchlibnyk-Butler & Jeffries, 2009

Anticholinergic Side Effects



- Blurry vision
- Nasal congestion
- Dry mouth
- Urinary retention
- Constipation



Rx : tricyclic antidepressants

www.solution-s.ca

THE BRISTOL STOOL FORM SCALE



Type 1		Separate hard lumps, like nuts
Type 2		Sausage-like but lumpy
Type 3		Like a sausage but with cracks in the surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces

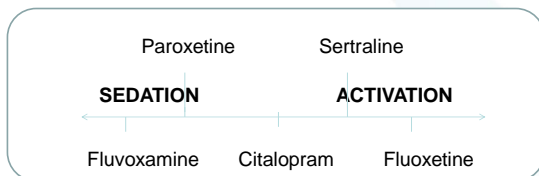
IDEAL: Type 4,
(Type 3 also OK)

« they glide out easily
with no fuss
whatsoever »

Source: Heaton KW, et al. Gut.
1992;33:818-824

www.solution-s.ca

Spectrum of SSRI CNS Effects: Activation vs. Sedation



Adapted from CANMAT (1999)

www.solution-s.ca



Drug	Sedation	Orthostatic Hypotension	Constipation/ Dry Mouth	Cardio- toxicity	Insomnia	Nausea/ Vomiting	Diarrhea	Irritability	Head- aches	Seizures
fluoxetine	+	0	+	0/+	++	++	+	++	++	+
fluvoxamine	+	0	+	0/+	+	++	++	+	++	+
nefazodone	++	+	+	0/+	+	++	++	+	+	+
paroxetine	+	+	+	0/+	+	++	++	+	++	+
sertraline	++	0	+	0/+	+	++	++	+	++	+
trazodone	+++	++	+	0/+	0	++	++	+	+	+
venlafaxine	+	0	+	0/+	+	++	+	+	++	+
bupropion	++	0	+	0/+	++	+	+	++	++	+/++

Reiss S., & Aman, M. (ed's). (1998).

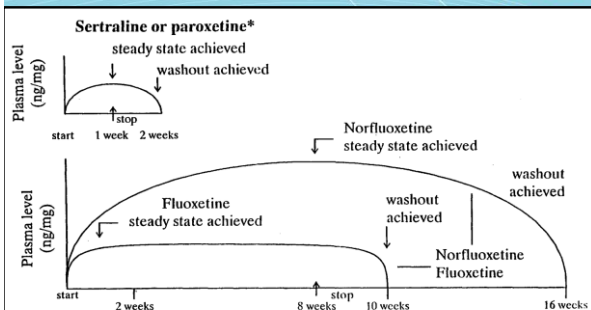
www.solution-s.ca

[illegible]

*None reported in literature protocol. **More likely in bipolar patients. ***Primarily in the elderly. ****ECG abnormalities usually without cardiac injury.
†Non-hypertensive patients; risk increased with elevated plasma levels. ‡Tardive dyskinesia reported rarely. §Higher incidence if doses used above 400 mg/day of bupropion or in patients with bulimia. ¶Found to lower intracranial pressure. ||Less likely to precipitate mania. **Less frequent if drug given after meals. ***Patients with preexisting cardiac disease have a 50% incidence of premature ventricular contractions. ****Piquation reported. *****Especially if given in the evening. †Decreased heart rate reported. ††Weight loss reported initially. †††Hypertension reported, may be more common in patients with preexisting hypertension. ††††Sedation decreased at higher dose (above 75 mg). †††††Slowing of sinus node and atrial dysrhythmias. ††††††Improved sexual functioning. †††††††Birth control treatment. †††††††Increased risk with higher doses.

Virani, Bezchlibnyk-Butler & Jeffries, 2009

Virani, Bezchlibnyk-Butler & Jeffries, 2009



www.solution-s.ca

SSRI Side Effects



- **N & V**
- **Diarrhea**
- **Headaches**
- Irritability
- Sedation / insomnia
- Dry mouth
- Seizures

www.solution-s.ca

SE	Non-pharmacological	Pharmacological
Dry mouth	Gum, pastilles/cough drops 6-8 glasses H ₂ O/day Special tooth paste	
N & V	Rx with food Crackers, toast	
Weight gain	Diet Exercise	Change Rx
Urinary retention	6-8 glasses H ₂ O/day	
Constipation	6-8 glasses H ₂ O/day Exercise Diet rich in fruits, vegetables & fibre	Laxative
Orthostatic Hypotension	Increase hydration Get up/change position slowly	
Fatigue/sedation	Planned exercise & rest Avoid alcohol Caffeinated beverages (1/day)	Change Rx Change time of dose Decrease the dose
Blurry vision	Magnifying glasses temporarily	Eye drops
Diaphoresis	Light clothing Showers/baths frequently	Decrease the dose Change Rx
Tremor	May decrease w/ dose decrease	Decrease the dose

Serotonin Syndrome



Accumulation of serotonin : **Symptoms :**

- Agitation, confusion
- Nausea, Diarrhea
- Dizziness
- Diaphoresis
- Ataxia, Tremor
- Myoclonus, Convulsions
- Hyperreflexia
- ↑ BP, Palpitations, tachycardia
- Hyperthermia/fever
- Rhabdomyolysis
- Severe respiratory depression & coma

www.solution-s.ca

Withdrawal of SSRIs



Symptoms :

- Dizziness , lethargy, N & V, diarrhea, headache, fever, diaphoresis, malaise, insomnia, intense dreams, myalgia, paresthesia, sensations of 'electric shock', anxiety agitation, irritability, confusion, disorientation, aggression rarely
- 1-7 days after decrease or discontinuation of Rx
- Duration: 3 weeks

Tx :

- Decrease the dose by 25% per week

www.solution-s.ca

Considerations



- Trazadone at bedtime: on empty stomach
- Active Metabolites : TCAs, fluoxetine
- Dosing : TCAs, SSRIs : bid; others : BID
- Interactions with CYP450 enzymes
- Special diet with MAOIs (↓ tyramine)

**** Verify the risk of suicide regularly**

www.solution-s.ca



29-2450 Lancaster
Ottawa, Ontario K1B 5N3
T 613 249-8593
F 613 249-0198
info@solution-s.ca
www.solution-s.ca
