A Clinician Pocket Guide

Management of Perinatal Mood, Anxiety and Related Disorders

from the 2024 CANMAT Clinical Practice Guideline

Derived from the Canadian Network for Mood and Anxiety Treatments (CANMAT) 2024 Clinical Practice Guideline for the Management of Perinatal Mood, Anxiety and Related Disorders

Welcome

The **Canadian Network for Mood and Anxiety Treatments (CANMAT)** is a not-for-profit scientific and educational organization that produces clinical guidelines outlining the latest research and treatment options for managing mood, anxiety, and related disorders (www.canmat.org).

The scientific information in this guide is drawn from the **CANMAT 2024 Clinical Guidelines for the Management of Perinatal Mood, Anxiety, and Related Disorders**, published in the Canadian Journal of Psychiatry (available at www.canmat.org).

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Introduction

Perinatal mood, anxiety and related disorders (PMADs) are some of the **most common conditions** in pregnancy and in **the year after childbirth**. Lack of treatment can negatively impact the affected persons, their children and families.

In 2024, the Canadian Network for Mood and Anxiety Treatments (CANMAT) published a clinical practice guideline for the pregnancy and postpartum (perinatal) management of mood, anxiety and related disorders.

The CANMAT Clinician Pocket Guide to PMADs provides a concise summary of the **10 sections** below to help healthcare providers with their management of patients with perinatal depressive, bipolar, anxiety, obsessive-compulsive, post-traumatic stress disorders, and postpartum psychosis.

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Guideline Overview

1. The CANMAT guideline aims to provide **comprehensive guidance for clinicians in the context of treating individual patients**. It is **not meant to replace clinical judgement nor is it a legal or policy care standard**. Choosing a treatment from among the many interventions remains a **collaborative decision between patients and clinicians**, considered in the context of their own settings.

2. The guideline **summarizes the evidence for interventions** to prevent and treat perinatal major depressive disorder (MDD), anxiety disorders, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD) and bipolar disorder, and clinical presentations unique to the perinatal period such as postpartum psychosis and fear of childbirth.

3. The guideline recommendations **balance systematic evidence review with consensus expert opinion** by experienced clinicians and input from persons with lived experience. The focus was on evidence published up to October 2023, so clinicians are encouraged to keep up to date with the latest research to provide their patients with the best possible care. Recommendations for each line of treatment are based on the Level of Evidence as well as clinical support *(see charts on the following page)*.

Look out for...

Helpful symbols found throughout this guide

Deeper and more detailed learning

"Practice pearls" of wisdom

Assessment/ treatment tools

Warnings or urgent information

CANMAT Criteria for Level of Evidence

Level of Evidence	Symbol			Criteria
	Positive Efficacy	Negative Efficacy	Perinatal Safety	
1				High-quality meta-analyses with narrow confidence intervals or replicated RCTs* with adequate sample size
2				Lower-quality meta-analyses with wide confidence intervals and/ or one or more RCTs with adequate sample size
3				At least 1 small-sample RCT or high-quality, controlled observational studies
4				Pilot studies, uncontrolled trials, anecdotal reports, or expert consensus opinion

Green circles are used to indicate that there is positive empirical evidence that the intervention is **effective**, and red squares are used when there is empirical evidence that the intervention is **not effective**. Blue circles are used to represent the strength and quality of the evidence on **safety** of the intervention in **pregnancy and/or lactation**. The blue circles do not indicate whether the safety profile is favourable or not.

CANMAT Criteria for Line of Treatment

Line of treatment	Criteria**
First Line	Level 1 or Level 2 evidence plus clinical support
Second Line	Level 3 evidence or higher plus clinical support
Third Line	Level 4 evidence or higher plus clinical support
Not Recommended	Level 1 or 2 evidence for lack of efficacy or safety concerns, or with clinical support

** RCT: Randomized Controlled Trial*

***Clinical support reflects the CANMAT Core Editorial Group expert opinion/ consensus on the relevance of the evidence on safety, efficacy and feasibility of applying the intervention.*

What are the recommendations for identification of PMADs?

CANMAT recommends that clinicians providing antenatal, postnatal and/or pediatric care **implement case identification into their routine clinical practice** throughout the perinatal period (Level 4).

Validated **questionnaires** (e.g. the Edinburgh Postnatal Depression Scale, and others) can be used for PMAD case identification.
A diagnosis cannot be made with questionnaires alone.

- **Edinburgh Postnatal Depression Scale (EPDS)** - 11 or higher for depression (see following page)
- **PHQ-9, PHQ-2 and Whooley Questionnaire** may also be useful for depression
- **GAD-7** - 7 or higher for perinatal generalized anxiety disorder
- **Mood Disorder Questionnaire (MDQ)** - 7 or higher, consider assessment for bipolar disorder, which is particularly important in this period given high risk of perinatal relapse and association with increased risk of postpartum psychosis

While some well-validated tools have been translated into many languages, this may not accurately capture how some populations recognize or experience mental health symptoms. **Be mindful of limitations of these tools** with respect to cultural appropriateness and accessibility in diverse populations. Please see the Appendix for fuller descriptions of symptoms of PMADs.

Initial diagnostic assessment

Conduct a **comprehensive** diagnostic assessment in a **supportive, non-judgmental, and inclusive environment**, offering **accessible, culturally-safe, and trauma-informed care**.

When possible and appropriate to obtain, **collateral information** from **partner, family and friends** can be helpful in clarifying diagnosis, level of family/social support, and risk.

Consider **thyroid stimulating hormone (TSH)**, **complete blood count (CBC)** and/or **ferritin measurement** to help rule out common perinatal conditions. Additional testing may be required on a case-by-case basis. For example, use of **electroencephalography (EEG)** or **neuroimaging** when there is clinical suspicion of epilepsy/seizures, traumatic brain injury or other serious medical conditions.

Not all perinatal mood, anxiety and related symptoms represent a perinatal mood disorder. For example, **"Baby blues"**, experienced by 40-80% of individuals shortly after childbirth, include mild mood swings, sadness, crying more easily, anxiety, and difficulties with sleep and concentration. These are not severe and usually resolve within 2-4 weeks without intervention. With major stressors (e.g., maternal or child illness), a diagnosis of an adjustment disorder may be most appropriate. **CANMAT recommends monitoring those who experience "baby blues" and adjustment disorders carefully until complete resolution of symptoms.**

While diagnoses for mood, anxiety and related disorders are made using the same diagnostic criteria as outside the perinatal period, examples of **common perinatal-specific aspects of clinical presentation include**:

- → **Negative and persistent ruminations** about one's capacity as a parent and guilt about actions having a negative impact on the child.
- → **Anxiety** often focuses on worries related to the health of children and the ability to parent. Intrusive worries can present as unwanted, intrusive thoughts or images of harm coming to the infant, often accompanied by reassurance seeking, checking behaviour and avoidance.
- → **Fear of childbirth (tokophobia)** can present with fear of: pain, medical interventions, injury, loss of control, body change, staff misconduct, and/or maternal and/or infant death.
- → **Childbirth-posttraumatic stress disorder (CB-PTSD)** is characterized by PTSD symptoms related to a traumatic birthing experience.
- → Patients with a history of trauma may experience **trauma-related triggers** perinatally that can include: physical examinations, labour pain, difficult childbirth, and/or other clinical scenarios where the patient does not experience adequate control, choice or autonomy.
- → **Postpartum psychosis** presents with a unique mix of mood and psychotic symptoms, often with fluctuating symptoms and delirium-like presentation. It is a psychiatric emergency.

Edinburgh Postnatal Depression Scale (EPDS)

In the past 7 days...

1 I have been able to laugh and see the funny side of things:

As much as I always could ______(0)
Not quite so much now ______(1)
Definitely not so much now ______(2)
Not at all ______(3)

2 I have looked forward with enjoyment to things:

As much as I ever did ______(0)
Rather less than I used to ______(1)
Definitely less than I used to ______(2)
Hardly at all ______(3)

3 I have blamed myself unnecessarily when things went wrong:

Yes, all of the time ______(3)
Yes, most of the time ______(2)
No, not very often ______(1)
No, not at all ______(0)

4 I have been anxious or worried for no good reason:

No, not at all ______(0)
Hardly ever ______(1)
Yes, sometimes ______(2)
Yes, very often ______(3)

5 I have felt scared or panicky for no good reason:

Yes, quite a lot ______(3)
Yes, sometimes ______(2)
No, not much ______(1)
No, not at all ______(0)

6 Things have been getting to me:

Yes, most of the time I haven’t been able to cope at all ______(3)
Yes, sometimes I haven’t been coping as well as usual ______(2)
No, most of the time I have coped quite well ______(1)
No, I have been coping as well as ever ______(0)

7 **I have been so unhappy that I have had difficulty sleeping:**

Yes, most of the time	____(3)
Yes, sometimes	____(2)
No, not very often	____(1)
No, not at all	____(0)

8 **I have felt sad or miserable:**

Yes, most of the time	____(3)
Yes, sometimes	____(2)
No, not very often	____(1)
No, not at all	____(0)

9 **I have been so unhappy that I have been crying:**

Yes, most of the time	____(3)
Yes, sometimes	____(2)
Only occasionally	____(1)
No, never	____(0)

10 **The thought of harming myself has occurred to me:**

Yes, quite often	____(3)
Sometimes	____(2)
Hardly ever	____(1)
Never	____(0)

Total The Patient's Score Here ▸▸▸	

If your patient's score is 11 or higher, they may have perinatal depression. Results merit further discussion.

Some other validated questionnaires, including the PHQ-9 and GAD-7, can be accessed for free on MoodFx (moodfx.ca).

Edinburgh Postnatal Depression Scale (EPDS). Adapted from the British Journal of Psychiatry, June, 1987, vol. 150 by J.L. Cox, J.M. Holden, R. Segovsky. Reproduced with permission.

2

What is recommended for the organization and delivery of healthcare services?

Collaboration between multidisciplinary team members is encouraged in preparation for labour, delivery and the early postpartum period, especially in complex cases.

Initial treatment selection depends on the nature and severity of the illness, previous response to treatment, and patient preference (See Table 1). In general:

- **PMADs of mild or moderate severity may be successfully managed with non-pharmacological options alone**; medications and/or other somatic treatments can be added if symptoms do not respond to non-pharmacological treatment alone.
- **Medications are typically needed to successfully manage PMADs with moderate-severe or severe symptoms**, and are the mainstay of treatment for bipolar disorder and postpartum psychosis. If medication is needed to prevent or treat PMADs, monotherapy is generally preferred. However, lowering the dose or minimizing the number medication exposures should not be at the expense of inadequate treatment response.

Once treatment is initiated, CANMAT recommends **regular monitoring**; the use of standardized tools (i.e. EPDS, PHQ-9, GAD-7) is highly encouraged. **Collaborative care models**, often achieved by integrating mental healthcare into general healthcare settings, can improve access to treatment and continuity of care. ▸▸▸

HOW PMAD ILLNESS SEVERITY CAN GUIDE INITIAL TREATMENT SELECTION

For a given illness severity, the lowest checkmarked intervention type is typically needed, but interventions in higher rows may also be implemented to complement the effect of the main intervention.

	Mild	Moderate	Severe
Overall Assessment of Severity	Symptoms meet diagnostic criteria, intensity is distressing but manageable, some interference with function	Symptom number, intensity and impact on function are all significant but main/basic functions are maintained	Mental distress is substantial; unable to maintain basic functions without help from others
Standardized scales to aid in assessment of severity			
EPDS Score (depression/ anxiety)	10-12	13-18	19 or more OR Q10 > 0*
PHQ-9 (depression)	5-9	10-14	15 or more OR Q9 > 0*
GAD 7 score (anxiety)	5-9	10-14	15 or more
Initial Treatment Selection *Note: Also consider patient preference, previous response to treatment, and treatment availability*			
Lifestyle, Psychosocial, and/or CAM Interventions	✓	✓	✓
Psychological Interventions	✓ **	✓	✓
Pharmacological or other somatic interventions (e.g., ECT)		✓ ***	✓
Care Setting	Community and primary care	Primary and specialist care	Specialist care

Table 1

**Requires comprehensive risk assessment (see page 42) to differentiate passive suicidal thoughts from intent and plan for suicide, and to evaluate additional risk factors*
***When lifestyle, psychosocial interventions, or CAM interventions are not feasible or accessible*
****If patient preference, lack of access to psychological treatments, diagnosis of bipolar disorder or psychosis, and/or high-risk of worsening/relapse*
CAM: Complementary and alternative medicine; ECT: Electroconvulsive therapy

Adapted from the Care Pathway for the Management of Perinatal Mental Health (Ontario Provincial Council for Maternal and Child Health).

3

What are the recommendations for lifestyle interventions?

Exercise

- **Low to moderate intensity exercise** can help prevent perinatal depressive (Level 2) and anxiety symptoms (Level 3) and treat perinatal depressive symptoms (Level 2).
- Exercise should be **conducted under supervision** to ensure that it is clinically appropriate, especially in relation to pregnancy and postpartum, and tailored to individual circumstances.

Sleep Protection

- **Sleep disruption is very common** in pregnancy and when caring for an infant. Sleep disruption is a **risk factor for PMADs** (especially for relapse of bipolar disorder), so **sleep protection is important and is highly recommended** in those with a past history of, or current evidence of PMADs, and especially bipolar disorder and/or postpartum psychosis (Level 4).
- Sleep protection interventions may range from **minimizing the time a mother has to be awake at night** (e.g., bottle-feeding by another adult with pumped breastmilk or formula) to **evidence-based interventions to treat insomnia** when it is present.
- **Cognitive-behavioural therapy (CBT)** for insomnia **improves sleep quality, insomnia severity, depression and anxiety symptoms** in pregnancy (Level 1), and has open-label evidence for its use for insomnia in postpartum depression specifically (Level 4).
- **Neither sleep education** nor **infant behavioural sleep interventions appear to be effective** in preventing postpartum depression per se in non-clinical populations (Level 2 negative). Nonetheless, **behavioral sleep interventions can help with child sleep and maternal sleep quality**, so could be helpful with sleep protection in high-risk groups.

Bright Light Therapy

- **Bright light therapy can help treat postpartum depression** (Level 2).
- The standard protocol for bright light therapy is 10,000 lux for 30 min/day upon awakening for a minimum of 6 weeks.

What are the recommendations for the use of psychosocial interventions?

Psychosocial interventions are designed specifically to **enhance perceptions of support** by providing informational (i.e., psychoeducational), emotional, and instrumental support.

Formal psychosocial interventions can also be helpful. There is strong evidence for **trained peer support** whether delivered face to face, by telephone, or online, individually or in groups (Level 1).

While unstructured home visits have not been shown to be effective (Level 2 negative for depression; Level 3 negative for anxiety), **structured "listening visits" by a nurse or home visitor trained in empathic listening and problem-solving have been shown to reduce depression** symptoms in the postpartum (Level 2).

Co-parenting interventions, where the focus is on educating parents and/or parental figures about how to share roles and effectively interact while parenting, has been shown to be beneficial for preventing postpartum depression (Level 2) and anxiety (Level 3) symptoms.

Educating patients and families about pregnancy, parenting, PMAD risks, symptoms and treatments is important and part of best practices in healthcare.

Practice Pearl

Since an individual's perception of insufficient support is a consistently strong risk factor for PMADs, CANMAT also recommends **optimizing informal supports** such as those provided through community or by family members and friends (Level 4).

PSYCHOSOCIAL INTERVENTIONS FOR THE PREVENTION AND TREATMENT OF PMADS

Line of Treatment	Depressive Symptoms		Anxiety Symptoms	
	Intervention	Level of Evidence	Intervention	Level of Evidence
Prevention				
First line	Trained peer support*		-	
Second line	Coparenting (postpartum)		-	
Third line	-		Coparenting (postpartum)	
Not recommended	Home visits		Home visits	
	Psychoeducational Programs		Psychoeducational Programs	
Treatment				
First line	Trained peer support		-	
Second line	Listening visits (postpartum)		Trained peer support	
Not recommended	Home visits		Home visits	
	Psychoeducational Programs		Psychoeducational Programs	

In bipolar disorder, trained peer support may be helpful as adjunctive to medication treatment in the prevention of symptom recurrence, including manic and depressive symptoms (Level 4). There is insufficient evidence for the role of structured psychoeducational programs in this population.

**If risk factors for and/or subsyndromal symptoms of PMADs are present*

Table 2

5

What are the recommendations for the use of psychological interventions?

Psychological treatment is recommended as a first-line option for treating mild or moderate-severity depression, anxiety, OCD and PTSD or in mild-severity illness **when other non-pharmacological interventions alone are not fully effective.**

For **bipolar disorder**, medications are the foundation of treatment, but **adjunctive psychological interventions may be helpful**.

Most perinatal studies of psychological interventions have focused on depression and anxiety disorders. Where perinatal studies are limited, such as for OCD, PTSD and bipolar disorder, psychological interventions shown to be effective in non-perinatal populations can be considered.

PSYCHOLOGICAL INTERVENTIONS FOR THE PREVENTION OF PMADS

PMAD	Line of Treatment	Intervention	Level of Evidence
Depression	First Line	Cognitive-Behavioural Therapy (CBT)*	●
		Interpersonal Therapy (IPT)*	●
	Second Line	Guided self-help psychological interventions*	◒
Anxiety	First Line	-	
	Second Line	Guided self-help psychological interventions*	◒
OCD	-	n/d	
PTSD	First Line	Interventions with trauma-focused CBT components**	◕
	Not Recommended	Psychological debriefing after traumatic childbirth	■
Bipolar disorder	First Line	-	
	Second Line	-	
	Third Line	Adjunctive CBT (relapse prevention)	◔
		Adjunctive family-focused therapy (relapse prevention)	◔
		Adjunctive interpersonal and social rhythms therapy (relapse prevention)	◔

Table 3

**If risk factors for and/or subsyndromal symptoms of PMADs are present **After preterm birth*
Adjunctive = adjunctive to medication treatment; n/d = no data

PSYCHOLOGICAL INTERVENTIONS FOR THE TREATMENT OF PMADS

PMAD	Line of Treatment	Intervention	Level of Evidence
Depression	First Line	Cognitive-Behavioural Therapy (CBT)*	●
		Interpersonal Therapy (IPT)*	●
		Mindfulness-based therapies*	●
		Behavioural activation (BA)*	●
		Guided internet-based self-help including iCBT and iBA in pregnancy	●
	Second Line	Guided internet-based self-help interventions including iCBT and iBA in the postpartum	◕
Anxiety	First Line	CBT for anxiety symptoms	◕
		Mindfulness-based therapies for anxiety symptoms	◕
		Psychological therapies with CBT elements for symptoms of fear of childbirth	◕
	Second Line	Guided internet-based self-help for anxiety symptoms	◕
	Third Line	Guided iCBT for fear of childbirth	◔
OCD	Second Line	CBT with exposure and response prevention elements	◑
PTSD	Third Line	Trauma-focused psychological treatments with evidence in non-perinatal populations	◔
	Not Recommended	Psychological debriefing after traumatic childbirth	■
Bipolar disorder	Third Line	Adjunctive CBT for Major Depressive Episode (MDE) and quality of life	◔
		Adjunctive family-focused therapy for MDE and quality of life	◔
		Adjunctive interpersonal and social rhythms therapy for MDE and quality of life	◔

Table 4

** For MDE and for those with elevated depressive symptoms (with or without MDE diagnosis)*

6

What are the recommendations for the use of pharmacological interventions?

Medications are **most often used** in **perinatal depressive disorders, anxiety disorders, OCD and PTSD when non-pharmacological therapies are ineffective**, and as **first line treatment** when symptoms are **moderate-to-severe or severe**.

Medication may also be used as **initial treatments** in perinatal patients with **milder symptoms** who are unable to access psychological interventions, or who prefer medication over psychotherapy. Medication is the **mainstay of treatment** in **perinatal bipolar disorder** and **postpartum psychosis**.

Dosing & Monitoring

Dosing and monitoring protocols for most psychotropic medications in the perinatal period are generally similar to the non-perinatal period. However, **pregnancy-related physiological changes can impact the metabolism of some psychotropic medications**, reducing their blood levels. Dose increases may be needed if worsening symptoms occur.

Elimination of lamotrigine and lithium increases in pregnancy with reduction to pre-pregnancy levels quickly in the postpartum. Specific monitoring is recommended.

The combined use of two or more agents during pregnancy is associated with a slightly increased risk for adverse pregnancy and infant outcomes, so monotherapy treatment is preferred (when possible).

General Decision-Making Considerations

Decisions about medication use during pregnancy and lactation involve **balancing the benefits to the patient and fetus or developing infant against the potential risks** of medication exposure**.** Most **commonly used psychotropic medications** are considered **fairly low risk** in terms of their **impact on pregnancy complications and outcomes, fetal complications, neonatal health, and latent child developmental effects.** There are some exceptions - for example, valproic acid is a known teratogen and is also associated with increased risk of neurodevelopmental delay.

Most psychotropic medications also appear to be low-risk in lactation. Caution should be exercised with preterm infants and those with significant health conditions. Attempts to alter feed time or dump breastmilk to reduce infant exposure are not proven to be helpful.

Decision-making about medication in the perinatal period can be optimized by:

1. advising patients about all of their treatment options (including not being treated);
2. helping them clarify their values and preferences about these options; and
3. ensuring ample time for decision-making.

Antidepressants

Antidepressants are **first-line medications in depressive disorders, anxiety disorders, OCD, and PTSD**, and are sometimes used in bipolar depression as an adjunct medication.

- Antidepressants studied in pregnancy and lactation include **selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs)**, and other antidepressants.
- Overall, **evidence about the safety of antidepressant use in pregnancy is reasonably reassuring**, with minimal evidence to suggest an increased risk for spontaneous abortion, pregnancy complications, congenital malformations, or child health problems for most medications. There may be some increased risk for persistent pulmonary hypertension of the newborn, slight reduction in birthweight and gestational age, and postpartum blood loss without severe complications for some medications. Details about differences between medications are in the pharmacotherapy tables (See page 23-35). ▸▸▸

- Poor neonatal adaptation syndrome can occur in 15-30% of newborns exposed to SSRIs or SNRIs in pregnancy. **CANMAT does not recommend reducing or discontinuing antidepressants near delivery, as benefits of tapering do not likely outweigh risks to maternal illness severity.**
- **Antidepressants are generally reasonable to use in lactation**, and do not substantially impact breastmilk production. The TCA doxepin is not recommended in lactation due to elevated risk of infant sedation.

Antiepileptics

Antiepileptic medications (**lamotrigine, valproic acid, carbamazepine**) are **mainly used in bipolar disorder**. Folic acid supplementation of at least 0.4mg/day is recommended when antiepileptics are prescribed in pregnancy to reduce risk for neural tube defects.

- **Lamotrigine** has the **most favourable reproductive risk profile** in pregnancy and lactation, but its elimination can increase very quickly in pregnancy, so dose increases may be needed.
- **Valproic acid** exposure in pregnancy confers a **3-fold or greater increased risk for infant congenital malformations** (mainly neural tube and cardiac defects) after first trimester exposure **and child neurodevelopmental delay** after second and third trimester exposure.
  ! **Valproic acid is not recommended in pregnancy, nor at any time in reproductive-aged females due to risk for unplanned pregnancy.**
- **Carbamazepine** is associated with an i**ncreased risk for congenital malformations**, but less than valproic acid. Exposure to carbamazepine in pregnancy may increase the risk of infant vitamin K deficiency, so vitamin K should be administered in late pregnancy to reduce the risk for newborn bleeding. It is considered generally safe in lactation.

Antipsychotics

Second-generation antipsychotics are a **mainstay of medication treatment in bipolar disorder and are also used in the treatment of MDD and anxiety and related disorders** as adjunctive agents. First-generation antipsychotics may be used in mania, severe agitation or postpartum psychosis. Most data in pregnancy and lactation pertain to first-generation or older second-generation antipsychotics.

- There is **reasonably reassuring evidence for the safety of antipsychotics in pregnancy**. Overall, antipsychotics do not appear to be associated with an increased risk for congenital malformations. Second-generation antipsychotics (particularly olanzapine and quetiapine) may be associated with increased risk for metabolic complications in pregnancy. They do not appear to be associated with longer-term child health or developmental problems, except for a transient delay in motor development in the first few months of life that appears to resolve in the first 1-2 years. ▸▸▸

- **Olanzapine and quetiapine** are the agents with the most reported cases in lactation and appear to have a **favourable risk profile.**

Lithium

Lithium is indicated in the **treatment of bipolar disorder and as an adjunctive agent in the treatment of MDD**. For some individuals with a history of severe bipolar I disorder, lithium may be particularly effective, so **reducing or stopping it in pregnancy must be weighed against risk of severe relapse**.

- **During pregnancy, lithium elimination increases** as does total body water which can lead to subtherapeutic lithium concentrations, sometimes requiring dose adjustment. **A baseline pre-pregnancy or early pregnancy lithium concentration level is advised**, with monitoring once each trimester or if symptoms or side effects emerge. Consider holding lithium in preeclampsia due to risk for maternal/fetal toxicity related to impaired kidney function. The pre-pregnancy dose can be resumed post-birth. Monitor the lithium level 5-7 days later and adjust the dose as needed.
- Lithium use in the first trimester is associated with a **small increased risk for malformations** (including the rare Ebstein's anomaly), and has been linked to a **small increased risk for preterm birth**, infant hypoglycemia, abnormal thyroid and kidney function lab values, and decreased muscle tone. **There do not appear to be long-term neurodevelopmental impacts.**
- Since lithium is excreted by the kidney, there is **potential for immature infant renal function** to lead to **high infant lithium levels with resultant adverse effects**, so there is **some debate about lithium use in lactation**. **CANMAT does not recommend breastmilk exposure in premature infants, infants with kidney malformations, or with illnesses that may cause dehydration** (Level 4). CANMAT recommends that infants be monitored for any change in behaviour and muscle tone and in the case of these or any other clinical concerns, lithium levels, electrocardiogram (ECG), thyroid and kidney function should be assessed (Level 4).

Practice Pearl

Consider **holding lithium at the onset of labour or induction** (or for 24 hours prior to a scheduled caesarean birth) if lithium concentration is 0.7 mmol/L or higher as this may reduce the amount of lithium in the umbilical cord without greatly increasing maternal relapse risk. This may not be appropriate in patients who are at very high risk of relapse.

Sedative hypnotic medications

Benzodiazepines are sometimes used to **manage acute anxiety and insomnia** and also used in **postpartum psychosis and acute agitation**. **Hypnotic GABA-A receptor agonists** (e.g. zopiclone or zolpidem) are also a treatment option in **severe insomnia**.

→ In pregnancy and lactation, there are generally **fewer concerns** with the use of as needed vs. daily benzodiazepines, and **short-acting benzodiazepines**, such as lorazepam, are **preferred over longer-acting benzodiazepines**.

- Benzodiazepines are **not consistently linked with fetal malformations**.
- Regular use of benzodiazepines up to delivery is associated with **risk of respiratory problems**, somnolence and Neonatal Intensive Care Unit (NICU) admission in infants (Level 3 ◐).
- Caution is suggested when using benzodiazepines in lactation due to concern about infant sedation.

→ **Hypnotic GABA-A receptor agonist** (e.g. zopiclone or zolpidem) exposure in pregnancy has **not been associated with risk for congenital malformations**, but **may be linked to slightly increased risk for preterm birth**, **low birthweight** and **small-for-gestational age infants** (Level 3 ◐).

Pharmacotherapy Tables

1. Options are **classified into first, second, and third line treatment recommendations** for each PMAD. **Agents are listed alphabetically** (not hierarchically) within each line of treatment.
2. Lines of treatment **considered non-perinatal treatment guideline recommendations** with respect to efficacy, and medication safety and efficacy in pregnancy and lactation. The "justification for placement" column contains **rationale for placing the medication within that line of treatment**.
3. For **patients NOT on medication, CANMAT recommends that agents listed in a higher line of treatment be tried first**, but there may be specific reasons for choosing an agent in a lower treatment line such as patient preference, prior treatment response or non-response, or other clinical features.
4. In **individuals on medication(s) whose symptoms are well-controlled, the medication(s) should not be changed** to another one based on its placement in the rankings, unless the current agent is listed as "Not Recommended (NR)". **Switching medication may lead to clinical worsening.**
5. If a medicine is taken during pregnancy and is working well, **it is generally preferable to continue the same medication postpartum**, unless the patient is doing poorly clinically or the medication is causing significant adverse effects in the patient or infant.

MEDICATIONS FOR MAJOR DEPRESSIVE DISORDER IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Citalopram	●	◔	Most reassuring safety data of all antidepressants
	Escitalopram	●	◔	
	Sertraline	●	◔	
Second Line	Bupropion	●	◔	Less safety data than first-line agents, and rare case reports of infant seizure if continued in lactation
	Desvenlafaxine	●	◔	Less safety data than above-ranked agents
	Duloxetine	●	◔	Some uncertainty about spontaneous abortion risk
	Fluoxetine	●	◔	Possible higher PPHN and PNAS risk and longer half-life/higher passage into breastmilk if continued in lactation
	Fluvoxamine	●	◔	Maternal tolerability concerns at higher doses
	Mirtazapine	●	◔	Less safety data than first-line agents and some uncertainty about spontaneous abortion risk
	Venlafaxine XR	●	◔	Possible higher PNAS risk Some uncertainty about spontaneous abortion risk
Third Line	Paroxetine	●	◔	Possible higher risk for CV malformations and PNAS
	Quetiapine	●	◔	Maternal and fetal metabolic impacts, sedation
	Trazodone	●	◔	Maternal tolerability concerns at high doses
	Tricyclics*	●	◔	Maternal tolerability concerns
Insufficient Data	Agomelatine, dextromethorphan/bupropion, ketamine, levomilnacipran, mianserin, milnacipran, moclobemide, phenelzine, reboxetine, tranylcypromine (case reports of malformations and of fetal death), vilazodone, vortioxetine			

Table 5

**Tricyclics (Amitriptyline, Clomipramine, Desipramine, Doxepin, Imipramine, Nortriptyline, Protriptyline, Trimipramine), are not listed individually herein as it is difficult to separate their safety within the class of medications and their tolerability issues render them as lower in the treatment line of agents (after SSRIs, SNRIs and others) non-perinatally in any case. CV=cardiovascular, PNAS = poor neonatal adaptation syndrome, PPHN = Persistent Pulmonary Hypertension of the Newborn. Insufficient data = insufficient data on safety in pregnancy/lactation.*

MEDICATIONS FOR MAJOR DEPRESSIVE DISORDER IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Citalopram	●	◔	Most reassuring safety data of all antidepressants
	Escitalopram	●	◔	
	Sertraline	●	◕	
Second Line	Bupropion	●	◔	Rare case reports of infant seizure
	Desvenlafaxine	●	◔	Less safety data than first line agents
	Duloxetine	●	◔	Less safety data than first line agents
	Fluoxetine	●	◑	Longer half-life and higher RID than first and second-line agents, more side effects reported, no severe concerns
	Fluvoxamine	●	◔	Less tolerability at higher doses
	Mirtazapine	●	◔	Less safety data than first line agents and potential for maternal sedation
	Venlafaxine	●	◔	Less tolerability than first line agents
Third Line	Paroxetine	●	◕	Downgraded due to possible higher risk for CV malformations in a future pregnancy
	Quetiapine	●	◔	Maternal metabolic impacts, sedation
	Trazodone	●	◔	Maternal tolerability concerns at high doses
	Tricyclics (except doxepin)	●	◔	Maternal tolerability concerns
Not recommended	Doxepin	n/a	n/a	Concern about excessive infant sedation
Insufficient data	Agomelatine, brexanolone, dextromethorphan/bupropion, ketamine, levomilnacipran, mianserin, milnacipran, moclobemide, phenelzine, reboxetine, tranylcypromine, vilazodone, vortioxetine, zuranolone			

Not recommended = not recommended due to concerns about safety in lactation; Insufficient data = insufficient data on safety in pregnancy/ lactation; n/a = not applicable as safety concerns outweigh the value of efficacy evidence.; RID = relative infant dose; CV = cardiovascular.

Table 6

Anxiety Disorders

The principles for initial treatment selection for Generalized Anxiety Disorder (GAD) can be applied for other anxiety disorders by consulting treatment guidelines for the other anxiety disorders along with the safety information in pregnancy and lactation presented here.

MEDICATIONS FOR GENERALIZED ANXIETY DISORDER IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Escitalopram	●	◔	Most reassuring safety data of all antidepressants
	Sertraline	●	◔	
Second Line	Citalopram	◐	◔	Less efficacy data than first-line agents, but reassuring safety data
	Duloxetine	●	◔	Less safety data than first-line agents, some uncertainty about spontaneous abortion risk
	Fluoxetine	●	◔	Not as much efficacy data and possible higher PPHN and PNAS risk, longer half-life and passage into breastmilk if continued in lactation
	Venlafaxine	●	◔	Higher PNAS risk than first-line agents, some uncertainty about spontaneous abortion risk
Third Line	Bupropion XL	◕	◔	Less efficacy data than higher-ranked agents, rare case reports of infant seizure if continued in lactation
	Imipramine	●	◔	Maternal tolerability concerns
	Mirtazapine	◐	◔	Less efficacy and safety data than higher-ranked agents, uncertainty about spontaneous abortion risk
	Paroxetine	●	◔	Possible higher risk for CV malformations and PNAS than higher-ranked agents
	Pregabalin	●	◔	Concern for neurodevelopmental impacts
	Quetiapine	●	◔	Maternal sedation and metabolic effects
	Trazodone	●	◔	Maternal tolerability concerns at higher doses
Not recommended	Daily Benzo-diazepines	n/a	n/a	Respiratory problems, somnolence and NICU admission in infants; inconsistent associations with congenital malformations; maternal dependence risk
	Valproic Acid	n/a	n/a	Substantially elevated risk for congenital malformations and child developmental delay
Insufficient data	Agomelatine, Buspirone, Hydroxyzine, Vilazodone			

Table 7

CV = cardiovascular; PNAS = poor neonatal adaptation syndrome; PPHN = persistent pulmonary hypertension of the newborn; NICU = neonatal intensive care unit; Not recommended = not recommended due to concerns about safety in lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

MEDICATIONS FOR GENERALIZED ANXIETY DISORDER IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Escitalopram	●	◔	Most reassuring safety data of all antidepressants
	Sertraline	●	◔	
Second Line	Citalopram	◐	◔	Less efficacy data than first line agents, but reassuring safety data
	Duloxetine	●	◔	Less safety data than first line agents
	Fluoxetine	●	◔	Longer half-life and higher RID than first and second-line agents, more side effects reported, no severe concerns
	Venlafaxine	●	◔	Less tolerability than first line agents
Third Line	Bupropion XL	◕	◔	Less efficacy data, case reports of infant seizure
	Imipramine	●	◔	Maternal tolerability concerns
	Lorazepam	●	◔	Caution for infant sedation
	Mirtazapine	◐	◔	Less efficacy data than second-line agents and possible maternal sedation
	Paroxetine	●	◔	Downgraded due to possible higher risk for CV malformations in a future pregnancy
	Pregabalin	●	◔	Few data in lactation, caution if future pregnancy
	Quetiapine	●	◔	Maternal sedation and metabolic effects
	Trazodone	●	◔	Maternal tolerability concerns at higher doses
Not recommended	Valproic Acid	n/a	n/a	Concern re: starting this medication in lactation due to risk for future pregnancy. Can continue for lactation if was taking in pregnancy.
Insufficient data	Agomelatine, Buspirone, Hydroxyzine, Vilazodone			

Table 8

RID = relative infant dose; CV = cardiovascular; Not recommended = not recommended due to concerns about safety in lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

MEDICATIONS FOR OBSESSIVE COMPULSIVE DISORDER IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Citalopram	●	◔	Most reassuring safety data, slightly less non-perinatal efficacy data
	Escitalopram	●	◔	Most reassuring safety data
	Fluvoxamine	●	◔	Reassuring safety data, maternal tolerability at higher doses may limit its use
	Sertraline	●	◔	Most reassuring safety data
Second Line	Clomipramine	●	◔	Less well tolerated than first-line agents, however safety data are reassuring
	Fluoxetine*	●	◔	Possible higher PPHN and PNAS risk than first-line agents and longer half-life and greater passage into breastmilk if continued into lactation
Third Line	Paroxetine**	●	◔	Possible higher CV malformation and PNAS risk
	Venlafaxine***	◕	◔	Less non-perinatal efficacy data, possible higher PNAS risk than first- and second-line agents

Table 9

**Dosages required may go up to 80mg; **Dosages required may go up to 60mg; ***Dosages required may go up to 300mg; CV = cardiovascular; PNAS = poor neonatal adaptation syndrome; PPHN = persistent pulmonary hypertension of the newborn.*

MEDICATIONS FOR OBSESSIVE COMPULSIVE DISORDER IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Citalopram	●	◔	Most reassuring safety data, slightly less non-perinatal efficacy data
	Escitalopram	●	◔	Most reassuring safety data
	Fluvoxamine	●	◔	Reassuring safety data, maternal tolerability at higher doses may limit its use
	Sertraline	●	◔	Most reassuring safety data
Second Line	Clomipramine	●	◔	Tolerability concerns, and slightly less volume of safety data than first line agents
	Fluoxetine*	●	◔	Longer half-life and higher RID than first and second-line agents, more side effects reported, no severe concerns
Third Line	Paroxetine**	●	◔	Downgraded due to possible higher risk for CV malformations in a future pregnancy
	Venlafaxine***	◕	◔	Less efficacy than first line agents, and maternal tolerability

*Dosages required may go up to 80mg; ** Dosages required may go up to 60mg; ***Dosages required may go up to 300mg*

RID = relative infant dose; CV = cardiovascular

Table 10

MEDICATIONS FOR POST-TRAUMATIC STRESS DISORDER IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Sertraline	●	◔	Most reassuring safety data
Second Line	Venlafaxine	●	◔	Possible higher PNAS risk than first-line
Third Line	Paroxetine	●	◔	Possible higher CV malformation and PNAS risk than first-line
Not recommended	Prazosin	n/a	n/a	Concern re: fetal effects

CV = cardiovascular; PNAS = poor neonatal adaptation syndrome; Not recommended = not recommended due to concerns about safety in pregnancy; n/a = not applicable as safety concerns outweigh the value of efficacy evidence.

Table 11

MEDICATIONS FOR POST-TRAUMATIC STRESS DISORDER IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Sertraline	●	◔	Most reassuring safety data
Second Line	Paroxetine	●	◔	Less tolerability than first line agent, and also downgraded due to possible higher risk for CV malformations in a future pregnancy
	Venlafaxine	●	◔	Less tolerability than first line agent
Insufficient data	Prazosin			

CV = cardiovascular; Insufficient data = insufficient data on safety in lactation; n/a = not applicable as safety concerns outweigh the value of efficacy evidence.

Table 12

Bipolar Disorder

MEDICATIONS FOR ACUTE MANIA IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Aripiprazole*	●	◔	Safety data mostly reassuring, although fewer safety data than quetiapine
	Quetiapine	●	◔	Safety data most reassuring, despite possible increased risk for gestational diabetes
Second Line	Haloperidol	●	◔	Safety data reasonably reassuring, but maternal tolerability and relapse prevention lower than first-line
	Lithium	●	◔	Highly effective including for relapse prevention, but elevated risk for multiple adverse outcomes and complex to manage during pregnancy (see Lithium section)
	Olanzapine	●	◔	Gestational diabetes higher than quetiapine, should switch after lactation due to metabolic effects
	Risperidone**	●	◔	Possible higher risk for congenital malformations, not as good as lithium in relapse prevention
Third Line	Carbamazepine**	◕	◔	Possible increased risk for congenital malformations and Vitamin K deficiency
	Chlorpromazine	◕	◔	Less efficacy data than higher-ranked agents, few specific safety concerns other than class-effects
	Clonazepam	◕	◔	Less efficacy data than higher-ranked agents and fetal safety with exposure across pregnancy a concern
	Paliperidone	●	◔	Safety data volume is small
	Ziprasidone	◕	◔	Less efficacy data than higher-ranked agents and safety data volume are minimal
Not recommended	Tamoxifen	n/a	n/a	Teratogenic potential
	Valproic Acid	n/a	n/a	Substantially elevated risk for congenital malformations and child developmental delay
Insufficient data	Asenapine, Cariprazine, Clozapine			

Table 13

**Also first-line treatment for mixed states **Main concern is for congenital malformations so could be considered higher in the line of treatment when used after the 1st trimester.*

Not recommended = not recommended due to concerns about safety in pregnancy/lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

MEDICATIONS FOR ACUTE MANIA IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Aripiprazole*	●	◔	Reassuring safety data in lactation although less data than for quetiapine and may reduce breastmilk production
	Quetiapine	●	◔	Reassuring safety data in lactation, although may cause maternal sedation
	Risperidone	●	◔	Some adverse effects in lactation (more than quetiapine)
Second Line	Carbamazepine	◕	◔	Less efficacy data than higher-ranked agents, some adverse effects reported in lactation
	Haloperidol	●	◔	Maternal tolerability lower, relapse prevention less than higher-ranked, is linked to some adverse lactation effects, can reduce breastmilk due to hyperprolactinemia
	Lithium	●	◔	Highly effective, including for relapse prevention, but multiple concerns with lactation safety
	Olanzapine	●	◔	Reassuring safety data in lactation, although may cause maternal sedation (try lower doses) and will need to be switched longer-term due to metabolic effects
	Paliperidone	●	◔	Very little known but is active metabolite of risperidone, so may have similar impact
Third Line	Chlorpromazine	◕	◔	Less efficacy data than higher-ranked agents, may lead to infant drowsiness and neurodevelopmental effects, can reduce breastmilk due to hyperprolactinemia
	Clonazepam	◕	◔	Less efficacy data than higher-ranked agents, concern about infant sedation and other developmental problems, although hard to separate from pregnancy effects
	Ziprasidone	◕	◔	Less efficacy data than higher-ranked agents and safety data volume are minimal
Not recommended	Tamoxifen	n/a	n/a	No safety data and can suppress lactation
	Valproic Acid	n/a	n/a	Concern re: starting this medication in lactation due to risk for future pregnancy. Can continue for lactation if was taking in pregnancy.
Insufficient data	Asenapine, Cariprazine, Clozapine			

Table 14

** Also first-line treatment for mixed states. Not recommended = not recommended due to concerns about safety in pregnancy/lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.*

MEDICATIONS FOR ACUTE BIPOLAR I DEPRESSION IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Lamotrigine	◕	◔	Safety data reassuring; less efficacy data than quetiapine
	Quetiapine	●	◔	Safety data reassuring, despite possible increased risk for gestational diabetes
Second Line	Lithium	●	◔	Elevated risk for multiple adverse outcomes and complex to manage during pregnancy (see Lithium section)
	Olanzapine	●	◔	Safety data in pregnancy reasonably reassuring despite risk for gestational diabetes higher than quetiapine, should switch long-term due to metabolic effects
Third Line	Carbamazepine	◕	◔	Less efficacy data than higher-ranked agents, increased risk for congenital malformations and Vitamin K deficiency
Not recommended	Valproic Acid	n/a	n/a	Elevated risk for congenital malformations and child developmental delay
Insufficient data	Cariprazine, Lurasidone			

Not recommended = not recommended due to concerns about safety in pregnancy/lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

Table 15

MEDICATIONS FOR ACUTE BIPOLAR I DEPRESSION IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Lamotrigine			Minimal cause for concern with lactation or maternal sedation
	Quetiapine			Minimal cause for concern with lactation but some maternal sedation
Second Line	Lithium			Multiple concerns with lactation safety
	Olanzapine			Reassuring safety data in lactation, although may cause maternal sedation (try lower doses) and may need to be switched longer-term due to metabolic effects
Third Line	Carbamazepine			Less efficacy data than higher-ranked agents, some adverse effects reported in lactation
Not recommended	Valproic Acid	n/a	n/a	Concern re: starting this medication in lactation due to risk for future pregnancy. Can continue for lactation if was taking in pregnancy.
Insufficient data	Cariprazine, Lurasidone			

Not recommended = not recommended due to concerns about safety in pregnancy/lactation; Insufficient data = insufficient data on safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

Table 16

MEDICATIONS FOR ACUTE BIPOLAR II DEPRESSION IN PREGNANCY

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Pregnancy	
First Line	Lamotrigine			Safety data reassuring; less efficacy data than quetiapine
	Quetiapine			Safety data reassuring, despite possible increased risk for gestational diabetes
Second Line	Lithium			Possible higher risk for cardiovascular malformations and other fetal impacts
	Sertraline*			Safety data reassuring (caution for possible antidepressant-induced mania)
Third Line	Fluoxetine*			Safety data less reassuring than sertraline, possible higher PPHN and PNAS risk than sertraline (caution for possible antidepressant-induced mania) and longer half-life and greater passage into breastmilk if used in lactation
	Venlafaxine*			Safety data less reassuring than sertraline, possible higher PPHN risk than sertraline (caution for possible antidepressant-induced mania)
	Ziprasidone**			Safety data volume are minimal
Not recommended	Paroxetine		n/a	n/a
	Valproic acid	n/a	n/a	Elevated risk for congenital malformations and child developmental delay

Table 17

Not recommended = not recommended due to concerns about safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

PPHN=Persistent pulmonary hypertension of the newborn, PNAS = Poor neonatal adaptation syndrome

**Pure, non-mixed depression, **Depression and mixed hypomania*

MEDICATIONS FOR ACUTE BIPOLAR II DEPRESSION IN LACTATION

Line of Treatment	Medication	Level of Efficacy		Justification for Placement
		Non-Perinatal	Postpartum	
First Line	Lamotrigine			Less efficacy data than quetiapine; minimal cause for concern with lactation or maternal sedation
	Quetiapine			Effective, minimal cause for concern with lactation but some maternal sedation
Second Line	Lithium			Effective but multiple concerns with lactation safety
	Sertraline*			Less effective than higher-ranked agents, safety data very reassuring in lactation (caution for possible antidepressant-induced mania)
Third Line	Fluoxetine*			Less effective than higher-ranked agents, longer half-life and higher RID than first and second-line agents, more side effects reported, no severe concerns (caution for possible antidepressant-induced mania)
	Venlafaxine*			Less tolerability than higher-ranked agents (caution for possible antidepressant-induced mania)
	Ziprasidone**			Less effective than higher-ranked agents, safety data volume in lactation are minimal
Not recommended	Paroxetine		n/a	n/a
	Valproic acid	n/a	n/a	Concern re: starting this medication in lactation due to risk for future pregnancy. Can continue for lactation if was taking in pregnancy.

RID = relative infant dose; not recommended = not recommended due to concerns about safety in pregnancy/lactation; n/a = not applicable as safety concerns outweigh the efficacy evidence.

Table 18

**Pure, non-mixed depression only, **Depression and mixed hypomania*

What are the recommendations for the use of neuromodulation?

Neuromodulation (or neurostimulation) interventions comprise a group of treatments that **affect the central nervous system via electrical or magnetic stimulation**. These are used when **initial treatments have not been successful** or for cases of **severe illness**.

Non-invasive neuromodulation

- **Repetitive Transcranial Magnetic Stimulation (rTMS)** can be an effective treatment for postpartum depression with minimal maternal side effects, mostly when used as an adjunctive treatment in cases of incomplete response to antidepressant medication (Level 2). Given the strong evidence for its use non-perinatally, adjunctive rTMS is recommended for postpartum depression.
- **Adjunctive Transcranial direct current stimulation (tDCS)** is recommended as a third-line option for mild-to-moderate postpartum depression, as further perinatal evidence is needed (Level 3).
- **There is yet to be sufficient safety and/or efficacy data to recommend these treatments in pregnancy.**

Electroconvulsive therapy (ECT)

- Appropriate first-line intervention for acute depression with severe psychotic or catatonic features, acute suicidality, or deteriorating physical condition in pregnancy.
- Also recommended for severe presentations of depression, mania, mixed states or psychosis, when pharmacological treatments are not successful.
- **Should occur in close collaboration with anesthesia and obstetrical services** to minimize risk for maternal or obstetrical complications.

8

What is recommended for the use of complementary and alternative medicine (CAM) treatments?

Data are still limited but it is reasonable to consider the use of CAMs that have promising evidence for efficacy and minimal evidence for harm as **adjunctive treatments** and/or in **individuals who prefer the use of CAMs during the perinatal period**.

Practice Pearl

! **St. John's Wort interacts with many medications and can cause serious side effects**. St. John's Wort is **NOT recommended in pregnancy or lactation** due to safety concerns about potential risks of harm to the developing fetus or infant.

CAM TREATMENTS FOR DEPRESSION AND ANXIETY SYMPTOMS

Line of Treatment	Depression Symptoms		Anxiety Symptoms	
	Intervention	Level of Evidence	Intervention	Level of Evidence
PREVENTION				
First Line	-	-	-	-
Second Line	Yoga in pregnancy		-	-
Insufficient or mixed evidence	Aromatherapy postpartum , Music postpartum		Music postpartum, Yoga in pregnancy	
TREATMENT				
First Line	-	-	-	-
Second Line	Adjunctive acupuncture postpartum*		Massage therapy in pregnancy	
	Massage in pregnancy		Adjunctive Music in pregnancy and postpartum	
	Adjunctive Music in pregnancy and postpartum *(* for postpartum)*		-	
	Vitamin D in postpartum		-	
	Yoga in pregnancy and postpartum *(* for postpartum)*		-	
Third Line	Acupuncture in pregnancy*		Massage therapy postpartum	
	Massage in pregnancy*		Relaxation in pregnancy	
	Saffron postpartum*		-	-
Not recommended	Folic acids, high flavonoid foods, nor iron, selenium, calcium, zinc, magnesium, or copper		-	-
	St. John's Wort	Safety concerns	-	-
Insufficient or mixed evidence	Aromatherapy postpartum, Hypnosis, Omega-3 fatty acids, Probiotics in pregnancy, Relaxation, Yoga for MDE in pregnancy		Aromatherapy postpartum, Hypnosis, Probiotics in pregnancy, Relaxation, Yoga in pregnancy	

Also effective in mild MDE

Table 19

MDE = major depressive episode; Adjunctive = Adjunctive to the standard of care; Given the low quality of the evidence, all interventions start below first line.

9

What are the recommendations for managing high-risk clinical situations?

High-risk clinical situations involve concerns that a person may harm themselves or others, including in the setting of postpartum psychosis (see below), but can occur in any PMAD.

When providing care for PMADs, clinicians should **always assess a patient's risk to self and others**, including the fetus, infant or older children. Safety assessment should include **assessment of suicidality, capacity to care for self, thoughts of harm to others, and neglect and/or abuse of children or dependents, as well as assessment of psychotic symptoms**. Collateral history can help to clarify the level of risk and availability of supports. High-risk clinical presentations can occur regardless of past psychiatric history,.

In any high-risk situation, **referral to expert mental health providers is warranted**. Emergency services may be warranted if there is an imminent safety concern; this can include calling 9-1-1 or 9-8-8 (mental health crisis line) in Canada and the U.S. and/or sending a patient to the emergency department. Clinicians should follow their local professional practice guidelines, laws and policies with respect to involuntary hospitalizations and when to report to child protection services.

! **Individuals with possible psychosis and thoughts of harming themselves and/or the baby should not be left alone, especially with the baby, until a comprehensive risk assessment is completed.** ▸▸▸

Postpartum Psychosis

Postpartum psychosis is a **psychiatric emergency due to its association with risk of maternal suicide and infanticide**. Symptoms typically start within the first week after delivery and almost always in the first 4 weeks postpartum (but can begin later in the postpartum period), and can include:

- **delusions**
- **hallucinations**
- **irritability, mood swings/emotional lability**
- **catatonia**
- **agitation and/or hyperactivity**
- **disorientation, depersonalization and/or derealization; and/or**
- **impaired attachment with offspring.**

Postpartum psychotic symptoms require urgent assessment. There can be rapid fluctuation in symptoms, including a delirium-like presentation or in and out of psychotic states.

- **Differential diagnosis:** Primary psychotic disorder such as schizophrenia or schizoaffective disorder, with acute intoxication, or more rarely due to a general medical condition.

- **Investigations:** should include a full physical and neurological examination and basic laboratory testing including urine toxicology, to rule out any organic cause. Additional laboratory and/or the use of EEG or brain imaging may be indicated when there is clinical suspicion of epilepsy/seizures, traumatic brain injury or other serious medical conditions, including those that can cause neuropsychiatric symptoms.

The **strongest risk factors for postpartum psychosis are a personal and/or family history of bipolar disorder, and a previous history of postpartum psychosis**. A preventative treatment plan should be offered, including consideration of prophylactic medication treatment and strategies to protect sleep.

- **Lithium** has the best evidence in prevention of postpartum psychosis ( ).

- Those with bipolar disorder should continue **maintenance pharmacotherapy** in postpartum ().

Postpartum psychotic symptoms require immediate treatment, often hospitalization. It is essential to assess risk to self, the newborn, other children, and other family members.

If you suspect postpartum psychosis, do not leave the patient alone with the baby.

The following management recommendations for postpartum psychosis are Level 4 (◔).

→ Start **antipsychotic medication with or without an intermittent benzodiazepine** to manage insomnia and/or to decrease agitation

→ **Lithium** may be added to enhance treatment response and for its efficacy in relapse prevention.

→ **ECT** is an option if rapid treatment is required, if there is insufficient response to pharmacotherapy, or if there is a past history of response to ECT.

→ After acute stabilization, **maintaining an antimanic agent for a minimum of 12 months** is recommended for relapse prevention

→ **Optimizing social support** and involving the partner, carer and/or support system is important, as well as involving possible peer support.

→ Given the acute risks associated with postpartum psychosis, it is **not uncommon that breastfeeding will need to be paused** or discontinued for the benefit of both the patient and the baby.

Acute Agitation

Acute agitation in PMADs **mainly occurs in the context of mania or psychosis**, but can occur in acute interpersonal crises, medical conditions, substance intoxication or withdrawal, or other etiologies.

1. **Attempt verbal de-escalation**

2. **Offer oral medication**

   → A benzodiazepine can be used, with lorazepam preferred over longer-acting options. Monotherapy is preferred but if the agitation is more severe, especially in the context of psychotic symptoms, an antipsychotic can be combined with a benzodiazepine.

   → If a regular antipsychotic has been started, this can be optimized. Some antipsychotics can be used on an as needed basis (for example, olanzapine).

3. **Consider non-oral medication.** Typical antipsychotics are less favoured in general psychiatry but haloperidol (available in oral, intramuscular or intravenous forms) has minimal perinatal risk so it can be used.

If there is imminent risk of violence, **physical restraint may be necessary**. If physical restraint is used **with a pregnant person, special care must be taken with positioning**, especially in the second or third trimesters of pregnancy, when using 4-point restraints, to avoid compression of the vena cava. Physical restraints should be used for the shortest amount of time possible, and with fetal monitoring (Level 4 ◔).

Risk of Suicide

Suicidal thoughts are estimated to occur in up to 8% of pregnant people and birthing parents. Most people who experience suicidal thoughts do not attempt suicide; in many cases, being pregnant or having a child is a major protective factor. Although maternal mortality is relatively rare, suicide is a leading cause of death in the perinatal period. The highest risk for suicide appears to be during acute episodes of severe depression, mania/mixed states, psychosis, and/or substance or alcohol intoxication.

- → **Ask detailed questions** about the presence, frequency and persistence of suicidal thoughts, specific plans for suicide, intent, or means to carry out a plan, and the potential for lethality.
- → **Optimize treatment** for the underlying PMAD is key.
- → For individuals at high or imminent risk, **hospitalization** is often required (involuntarily if needed).

Infant-Related Harm

Thoughts of infant harm are common in the postpartum period. In most cases, thoughts are intrusive and unwanted, and do not represent a safety concern. But **in some cases, these thoughts are cause for concern** and represent a high-risk situation.

NOTE: When care providers receive a disclosure of thoughts of harming one's infant, the thoughts should be fully assessed because not all disclosures will require referral to child protection services.

OBSESSIONAL THOUGHTS ▸ *Low Risk*

Thought of intentionally harming one's infant, which is:

- → **Intrusive** – keeps returning, unwanted, disturbing
- → May be an **image, thought, or urge**
- → **No actual intent** or wish to harm infant
- → Causes **distress**
- → Can cause **shame, guilt** around having these thoughts
- → Can cause **fear** to share these thoughts

THOUGHTS OF SUICIDE WITH INFANTICIDE ▸ *High Risk*

Thought of intentionally harming one's infant, which is:

- → **Related to suicidal thoughts** – for example, belief that infant will suffer if parent dies
- → Especially if with intent and/or **plan to act on these thoughts**
- → Often **severe depression**
- → **May not be disturbed by thoughts** because believes will be better for infant to include them in suicidal plan

PSYCHOSIS ▸ *High Risk*

Thought of intentionally harming one's infant, which is:

- → **Related to symptoms of psychosis** – for example, related to delusional belief that the infant is evil or possessed and that harming the infant is necessary
- → Sometimes **individual may not appear disturbed or distressed** by the thought, as it may make sense in the context of psychotic symptoms

ACUTE AGITATION ▸ *High Risk*

Thought of intentionally harming one's infant, which is:

- → **Related to intense agitation** – for example, related to extreme frustration toward infant
- → Especially if with **intent to act on thoughts**
- → Can be **impulsive**

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What are the recommendations for managing the mental health of fathers/co-parents?

Prevalence of clinically significant perinatal **depressive symptoms is between 8-10%** and of clinically significant **anxiety symptoms is about 11%** in fathers/co-parents. **Risk factors are similar to those of maternal depression**, including a history of mental illness and psychosocial stressors such as relationship distress and financial instability; unemployment is also a key risk factor.

There is a **strong correlation between maternal and paternal depression**, and maternal depression is a strong risk factor for paternal depression.

Unfortunately, there is **insufficient evidence to recommend specific treatments at this time**, so treatments with evidence outside the perinatal period should be used. It is recommended that clinicians, including those who are treating the birthing parent or the child, be attentive to the mental health of the co-parent. Standardized scales like EPDS can be used to aid in case identification.

Helpful Resources

Below are some general and perinatal mental health resources for clinicians and patients.

Suicide Crisis Line
Call or text 9-8-8 24/7 for support in English or French (other languages may be available via interpreter) and information about local resources across Canada. www.988.ca

Canadian Mental Health Association
Most extensive community mental health organization in Canada, with offices in 330 communities nationwide offering a range of programs, services and support. www.cmha.ca

Postpartum Support International (PSI) - Canada
Canadian branch of an international organization that offers perinatal mental health support and resources, including a helpline, online support groups, and volunteers in every region who provide up-to-date resources and assist with resource navigation.
www.postpartum.net/canada

Life With A Baby
A Canadian national peer support organization with a focus on reducing social isolation, providing support groups, and a directory of service providers.
www.lifewithababy.com

Marcé of North America (MONA)
North American regional group of an international perinatal mental health organization focused on advancing clinical care through advocacy, research, and education; among other resources, offers continuing professional development opportunities.
www.marcenortham.com

CANMAT
Access the full CANMAT 2024 Clinical Guidelines for the Management of Perinatal Mood, Anxiety, and Related Disorders, published in the Canadian Journal of Psychiatry, and *A Patient and Family Guide - Seeds of Hope: Nurturing Mental Health and Managing Perinatal Mood, Anxiety, and Related Disorders.*
www.canmat.org

Resources for prescribing in pregnancy and lactation:

Mother to Baby www.mothertobaby.org

Bumps - Best use of medicines in pregnancy
www.medicinesinpregnancy.org

First Exposure www.firstexposure.ca

Note that local perinatal mental health resources can change frequently (including specialist providers). ***PSI*** *keeps updated resources and can help you to familiarize yourself with services and supports in your region.*

Appendix

More Information about Symptoms of PMADs*

Perinatal depression

Symptoms of depression that can be experienced perinatally or outside of the perinatal period:	Ways that symptoms of depression can **specifically** present in pregnancy and postpartum:
5 (or more) of the following symptoms (with at least 1 of depressed mood or loss of interest/pleasure) present for at least 2 weeks, causing significant distress or dysfunction: → Sadness or hopelessness → Loss of interest in previously enjoyed activities → Change in appetite with/without unintended change in weight → Sleeping too much or too little → Feeling physically restless or very slowed down → Low energy → Feeling worthless or very guilty → Trouble with concentration → Thoughts of death or suicide, with or without suicide plan or attempt	→ Mood change can often show up as intense irritability or anger, in addition to or instead of sadness → Not feeling connected to baby or other children or partner → Not being able to eat enough to put on enough weight during pregnancy or to maintain milk supply in lactation → Not being able to sleep even when the baby is sleeping (sometimes because of worrying) → Feeling more restless or slowed down and/or tired than would be expected in pregnancy or with all of the physical issues after childbirth and caring for baby → Very negative thoughts about capacity as a parent (for example, being very critical or doubtful of oneself, or feeling like a failure) → Excessive guilt about parenting choices/actions having a negative impact on baby → Feeling very overwhelmed and that it is hard to make small decisions with regard to pregnancy or with the care of the baby (for example, planning for their eating, sleeping, and balancing other tasks) → Thoughts about harm coming to the baby, by accident or on purpose

**The symptoms in each section of this appendix are adapted from the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR).*

American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Perinatal anxiety

Symptoms of anxiety that can be experienced perinatally or outside of the perinatal period:	Ways that symptoms of anxiety can **specifically** present in pregnancy and postpartum:
→ Worrying too much about many things → Worry that is hard to control → Restlessness or trouble relaxing → Fatigue → Trouble with concentration → Feeling easily annoyed or irritable → Tense muscles → Trouble falling or staying asleep → Panic attacks → Fear of specific situations, such as social situations → Avoiding situations that cause anxiety Above symptoms reflect that perinatal anxiety disorders may present as Generalized Anxiety Disorder, Panic Disorder or other types of anxiety disorders.	→ Worrying too much about health in pregnancy or about the health, development, or safety of the baby → Intrusive thoughts or obsessive worries about harm to the baby → Worrying too much about ability to parent → Feeling overwhelmed and excessive difficulty coping with parenthood → Avoiding letting others look after the baby → Avoiding being apart from the baby → Repeatedly seeking reassurance about the baby's safety → Fear of childbirth (also known as tocophobia/tokophobia), which can include: fear of body changes, fear of pain, fear of death, or fear of loss of control

Perinatal obsessive-compulsive disorder (OCD)

Symptoms of OCD that can be experienced perinatally or outside of the perinatal period:	Ways that symptoms of OCD can **specifically** present in pregnancy and postpartum:
Presence of obsessions, compulsions or both, which are time-consuming (take up over 1 h per day) or cause significant distress or dysfunction: → Repeated, unwanted, intrusive thoughts or images or urges, which cause distress (obsessions) → Often about disturbing themes (for example, violent thoughts of harm, inappropriate sexual thoughts, germs and contamination) → Attempts to ignore or undo intrusive thoughts → Doubt, fear and/or guilt related to intrusive thoughts → Repetitive behaviours that one feels driven to in response to these intrusive, unwanted thoughts, or rigid rules (compulsions) → Compulsions are efforts to reduce distress and can be hard to resist	→ Unwanted, intrusive disturbing thoughts or images of harm coming to the baby or even unwanted, intrusive and disturbing thoughts or images of harming the baby on purpose → Repeated, rigid, ritualistic checking behaviours around the baby's safety → Repeatedly seeking reassurance about the baby's safety → Avoiding letting others look after the baby → Avoiding being apart from the baby

Perinatal post-traumatic stress disorder (PTSD)	
Symptoms of PTSD that can be experienced perinatally or outside of the perinatal period:	Ways that symptoms of PTSD can **specifically** present in pregnancy and postpartum:
→ A difficult or traumatic lived experience with more than 1 month of disturbing symptoms causing significant distress or dysfunction → 1 or more intrusion symptoms: • Recurrent unwanted thoughts, memories, or nightmares about the traumatic event, or reliving the event (flashbacks) → 1 or more avoidance symptoms: • Avoidance of memories, thoughts, feelings, people, places and things that are linked to traumatic event → 2 more negative changes in cognitions and mood: • Loss of memory around the traumatic event or trouble concentrating • Extreme negative beliefs about self, others, world, including blaming self for the trauma • Feeling detached from others → 2 or more changes in arousal and reactivity: • Extreme distress or intense negative emotions, like angry outbursts, especially when reminded of the traumatic event • Recklessness or taking more risks • Always on alert, extremely vigilant or very sensitive to being startled • Sleep disturbance → With or without dissociative symptoms: • Feeling detached from oneself (depersonalization) or one's surroundings (derealization)	→ Traumatic experience is related to pregnancy and postpartum (for example, childbirth or pregnancy loss) → PTSD symptoms focus on traumatic birthing experience and reminders of the birth → Feeling detached from the baby → Triggers of prior traumatic experiences during healthcare interactions including physical exams that are part of pregnancy care, or during childbirth

Perinatal bipolar disorder and Postpartum psychosis

Symptoms of bipolar disorder that can be experienced perinatally or outside of the perinatal period:	Symptoms **specific** to postpartum psychosis:
Repeated episodes of mood disturbance, with both depression and hypomania and/or mania **Depression** → Sadness or hopelessness for at least 2 weeks → Loss of interest in things one is usually interested in and enjoys → Change in appetite with/without unintended change in weight → Sleeping too much or too little - usually too much → Feeling physically restless or very slowed down - usually very slowed → Low energy → Feeling worthless or very guilty → Trouble with concentration → Thoughts of death or suicide, with or without suicide plan or attempt **Mania** → Extremely elevated or irritable mood and energy for at least 1 week → Thinking more quickly than usual → Needing less sleep → Being more active, especially if there are more risky or impulsive actions → Feeling more distractible → Having extremely increased confidence or self worth **Hypomania** → Similar symptoms as mania but less severe and lasting at least 4 days	Unique combination of mood (either like depression or mania or a mix) and psychotic symptoms **Possible mood symptoms** → Extreme irritability → Rapid mood swings → Severe restlessness or tension → Thinking, talking and/or moving more quickly than usual → Higher energy → Needing less sleep **Possible psychotic symptoms** → Paranoia → Delusional beliefs, such as bizarre thoughts about the baby or childbirth → Hallucinations → Disorganized, inappropriate or disruptive or aggressive behaviours → Confusion → Feeling detached from oneself or one's surroundings

Notes

We hope this clinician's pocket guide has been helpful to you!

Thank you to the team that put this guide together.

Canadian Network for Mood and Anxiety Treatments

www.canmat.org

Derived from the Canadian Network for Mood and Anxiety Treatments (CANMAT) 2024 Clinical Practice Guideline for the Management of Perinatal Mood, Anxiety and Related Disorders