

Clozapine: Care of Patient Receiving (Mental Health)

Site Applicability

Providence Health Care (PHC):

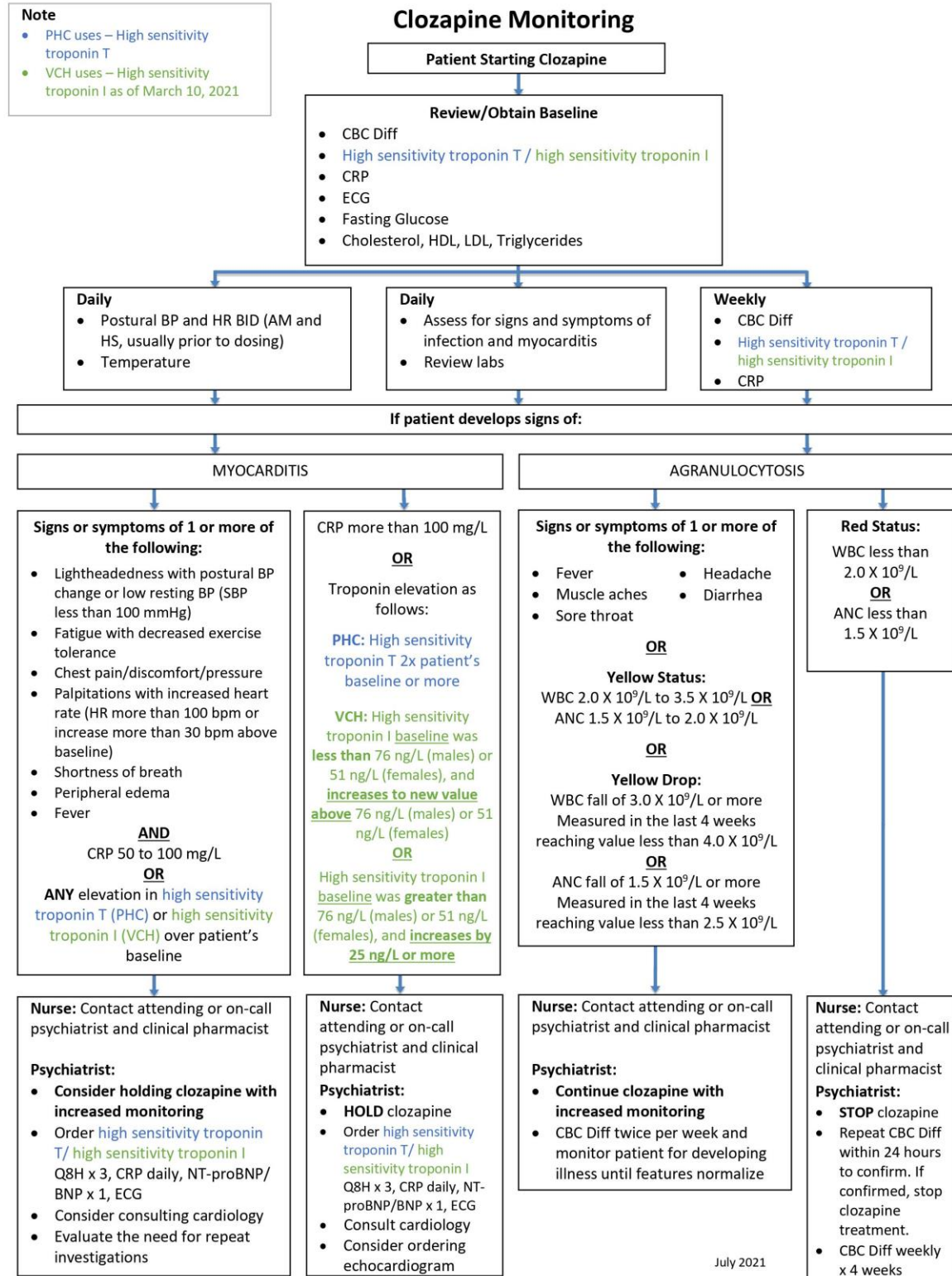
- St. Paul's Hospital: Acute Psychiatric Units (2E/PASU, 2N, 8C, 9A)
- Mount St. Joseph Hospital: Geriatric Psychiatry Unit (MSJ-1S)
- St. Vincent's Langara: Alder Neuropsychiatry Unit
- Youville: Parkview Unit

Vancouver Coastal Health (VCH):

- Vancouver General Hospital: Segal 5, 6, 7, 8, PAU, PEAT

Practice Level

- RN/RPN
- Pharmacist
- Physician



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Need to Know

Clozapine is typically reserved for treatment-resistant or treatment-intolerant schizophrenia. Although an effective antipsychotic agent, the use of clozapine has been associated with severe adverse effects, including myocarditis and agranulocytosis. The literature demonstrates a clear need to implement close and structured monitoring of patients on clozapine to prevent the development of serious adverse outcomes.

Terminology:

New Start: Ordering clozapine for a patient never prescribed clozapine in the past.

Restart: Re-ordering clozapine for a patient who has missed doses for two or more days OR if medication compliance is unknown.

Continuation: Ordering clozapine consistent with treatment prior to hospitalization, where treatment has been uninterrupted (i.e. patient has not missed doses for two or more days).

Clozapine New Start

- For new starts, the physician and pharmacist will complete, sign, and fax a clozapine registration form with preliminary complete blood count with differential (CBC Diff) results to one of the clozapine manufacturers/monitoring programs (Gen-Clozapine/GenCAN, AA-Clozapine/AASPIRE, Clozaril/CSAN).
- Registration forms can be obtained from www.gencan.ca, www.aaclozapine.ca, www.csan.ca
- The manufacturer will provide a registration number within 48 business hours.
- The pharmacist will enter the registration number in the patient's medication profile.

Clozapine Restart

- For restarts, the physician is to determine which drug manufacturer the patient was previously registered with and complete the corresponding registration form (see above)
- If the patient is still registered with the company then check off the "modify/modification" box on the form and update the Most Responsible Physician (MRP) information. Under the 'Pharmacy' and 'Lab' sections, provide the name of our institution (i.e., St. Paul's Hospital). In this case, the patient can continue re-titration immediately.
- The pharmacist will enter the registration number in the patient's medication profile if it is not already there.
- If the patient is restarting after a longer period of time and are no longer enrolled with the company, then follow same steps as for a "new start"

Clozapine Continuation

- For continuations, the physician is to determine the drug manufacturer the patient was previously registered with and complete the corresponding registration form.

- Check off the “modify/modification” box on the form and update the Most Responsible Physician (MRP) information. Under the ‘Pharmacy’ and ‘Lab’ sections, provide the name of our institution (e.g. St. Paul’s Hospital).

Clozapine Manufacturer Information

	Website	Telephone	After hours telephone	Fax
Genpharm (GenCAN)	www.gencan.ca	1-866-501-3338	1-866-501-3338, request to speak to a nurse	1-800-497-9592
AA Pharma (AASPIRE)	www.aaclozapine.ca	1-877-276-2569	1-877-276-2569, leave a message	1-866-836-6778
Clozaril (CSAN)	www.csan.ca	1-800-267-2726	1-800-267-2726, request to speak to a nurse	1-604-689-1262 (BC only) OR 1-800-465-1312

Pre-Printed Orders (PPOs)

Once approved by a clozapine manufacturer and a registration number is provided, the MRP is to complete the **Clozapine PPO (PHC (Power Chart): MH cloZAPine Monitoring*** or **VCH: [VCH.VA.PPO.1049](#)**. CBC Diff results should be within normal limits before starting, restarting or continuing clozapine.

**The MRP may initiate the MH cloZAPine Pre-Treatment module for clozapine new starts; medications can be ordered using the MH clozapine qdaily/q2day/q3day Titration Power Plans respectively, or ad hoc.*

Protocol

Assessment and Interventions

Baseline Assessment

As outlined in the Clozapine PPO, the following tests are ordered to establish patient’s baseline:

- CBC Diff
- C-Reactive Protein (CRP)
- Troponin
PHC: high sensitivity troponin T
VCH: high sensitivity troponin I
- Electrocardiogram (ECG)
- Fasting glucose
- Fasting cholesterol, HDL, LDL, triglycerides
- Vital signs

Ongoing Assessment

While patients are on clozapine, ongoing assessment includes:

- Vital signs:
 - Postural blood pressure (BP), heart rate (HR) BID (AM and HS)
 - Temperature daily
- Daily assessment for signs and symptoms of potential infection or myocarditis:
 - Lightheadedness with concomitant postural BP change or low resting BP (i.e. SBP less than 90 mmHg)
 - Fatigue with decreased exercise tolerance
 - Chest pain/ discomfort/ pressure
 - Palpitations with increased heart rate HR more than 100 bpm or 30 bpm above the patient's baseline.
 - Shortness of breath
 - Peripheral edema
- Weekly, biweekly, or monthly CBC Diff, depending on patient's monitoring protocol registered with the manufacturer (with results faxed to monitoring company), and weekly CRP and troponin for the first four weeks of treatment.
- Daily review of lab results (white blood cells (WBC), neutrophils (ANC), CRP and troponin by nursing staff)

Interventions

Nurses should report the following findings to the MRP and clinical pharmacist:

- Signs and symptoms of myocarditis (as outlined in ongoing assessment, [see algorithm](#))
- Signs and symptoms of infection (as outlined in ongoing assessment, [see algorithm](#))
- WBC and ANC results in the yellow, yellow drop or red zones
- CRP greater or equal to 50 mg/L
- Troponin
 - **PHC**: clinically relevant elevation in high-sensitivity troponin T, [see algorithm](#))
 - **VCH**: clinically relevant elevation in high-sensitivity troponin I, [see algorithm](#))

See [Clozapine Monitoring algorithm](#) for interventions related to the above findings. This algorithm is also located on the clozapine PPO and clozapine Monitoring Flowsheet.

Documentation

Nurses document ongoing assessments and review of lab results on the **Clozapine Monitoring Flowsheet** (PHC: Power Chart → Interactive View and I&O → MH Evaluation Tools → Clozapine Monitoring or VCH: VCH.VA.VGH.0826). Additional notes can be added in the interdisciplinary progress notes of the patient's chart.

Related Documents

1. [Lexicomp Online Drug Reference](#)
2. Clozapine Pre-Printed Orders:
 - o PHC: MH cloZAPine Monitoring
 - o VCH: [VCH.VA.PPO.1049](#)
3. Clozapine Monitoring Flowsheet
 - o PHC: Power Chart → Interactive View and I&O → MH Evaluation Tools → Clozapine Monitoring
 - o VCH: [VCH.VA.VGH.0826](#)
4. [Discharge Summary Fax to Community](#) (VCH: BCHA.0101)
5. [Clozapine Patient Handout](#) (FH Catalogue #265989, patienteduc.fraserhealth.ca)

References

1. Caforio, A. L., Pankuweit, S., Arbustini, E., et al. (2013). Current state of knowledge on aetiology, diagnosis, management, and therapy of myocarditis: a position statement of the European Society of Cardiology Working Group on Myocardial and Pericardial Diseases. *European Heart Journal*, 34, 2636-2648.
2. De Berardis, D., Serroni, N., Campanella, D., Olivieri, L., Ferri, F., Carano, A., et al. (2012). Update on the adverse effects of clozapine: focus on myocarditis. *Current Drug Safety*, 7(1), 55-62.
3. Mahrholdt, H., Wagner, A., Deluigi, C.C., et al. (2006). Presentation, patterns of myocardial damage, and clinical course of viral myocarditis. *Circulation*, 114, 1581-1590.
4. Murch, S., Tran, N., Liew, D., Petrakis, M., Prior, D., & Castle, D. (2013). Echocardiographic monitoring for clozapine cardiac toxicity: lessons from real-world experience. *Australasian Psychiatry*, 3, 258-26.
5. Ronaldson, K. J., Fitzgerald, P. B., & McNeil, J. J. (2015). Clozapine-induced myocarditis, a widely overlooked adverse reaction. *Acta Psychiatrica Scandinavica*.
6. Ronaldson, K. J., Fitzgerald, P. B., Taylor, A. J., Topliss, D. J., & McNeil, J. J. (2011). A new monitoring protocol for clozapine-induced myocarditis based on an analysis of 75 cases and 94 controls. *Australian and New Zealand Journal of Psychiatry*, 45(6), 458-465.
7. Smith, S.C., Ladenson, J.H., Mason, J.W., & Jaffe, A.S. (1997). Elevations of cardiac troponin I associated with myocarditis experimental and clinical correlates. *Circulation*, 95(1), 163-165.

Persons/Groups Consulted

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Clinical Nurse Educator, Segal Centre, VCH
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Date of Creation/Review/Revision

January 2016
Revised: February 2016
April 2016
July 2018
Nov 2018
July 2021
Oct 27, 2021- Troponin updated on algorithm

Appendix A:

Clozapine Power Plan (MH cloZAPine Monitoring)

	Component	Status	Dose ...	Details
MH cloZAPine Monitoring (Module) (Planned Pending)				
Patient Care				
	Assess the possible need for re-titration if the patient has been off cloZAPine for greater than 48 hours			
<input checked="" type="checkbox"/>	Clozapine Notification			
<input checked="" type="checkbox"/>	Orthostatic Vital Signs		qdaily	
<input checked="" type="checkbox"/>	Communication Order			Monitor signs and symptoms of infection and myocarditis
<input checked="" type="checkbox"/>	Weight		qweek	
<input checked="" type="checkbox"/>	Waist Circumference		q4week	
Laboratory				
<input checked="" type="checkbox"/>	CBC and Differential			Blood, Routine, Collection: T;N, qweek for 26 week
<input checked="" type="checkbox"/>	C-Reactive Protein High Sensitivity			Blood, Routine, Collection: T;N, qweek for 4 week
<input checked="" type="checkbox"/>	Troponin T Cardiac High Sensitivity			Blood, Routine, Collection: T;N, qweek for 4 week
<input type="checkbox"/>	Natriuretic Peptide B Prohormone			Blood, Routine, Collection: T;N, q180day
<input checked="" type="checkbox"/>	Glucose Fasting			Blood, AM Draw, Collection: T+1;0330, q180day for 52 week
<input checked="" type="checkbox"/>	Lipid Panel (Chol, Trig, HDL, LDL, Non-HDL)			Blood, AM Draw, Collection: T+1;0330, q180day for 52 week
<input type="checkbox"/>	Alanine Aminotransferase (ALT)			Blood, Routine, Collection: T;N, once
<input type="checkbox"/>	Gamma Glutamyl Transferase (GGT)			Blood, Routine, Collection: T;N, once
<input type="checkbox"/>	cloZAPine Level			Blood, Routine, Collection: T;N, once
Diagnostic Tests				
<input checked="" type="checkbox"/>	Electrocardiogram 12 Lead			Routine
Consults/Referrals				
<input checked="" type="checkbox"/>	Pharmacy Consult			Reason for Consult: Other – per Details, Please complete cloZAPine registration form

Clozapine Power Plan (MH cloZAPine qdaily Titration)

Patient Care	
	Ensure cloZAPine monitoring PowerPlan has been ordered prior to initiating titration
Medications	
	For Prefilled cloZAPine Titration (reaching 100 mg in 10 days), select only one cloZAPine module below and ensure correct brand is selected
<input checked="" type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Prefilled) (Module)
<input type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Prefilled) (Mod...
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Prefilled) (Module)
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Prefilled) (M...
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Prefilled) (Module)
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Prefilled) (Module)
	For Custom cloZAPine Titration, select only one cloZAPine module below and ensure correct brand is selected
<input checked="" type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Custom qdaily) (Module)
<input type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Custom qdaily)...
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Custom qdaily) (Module)
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Custom qdai...
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Custom qdaily) (Module)
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Custom qdaily) (...)

Clozapine Power Plan (MH cloZAPine q2day Titration)

Patient Care	
	Ensure cloZAPine Monitoring PowerPlan has been ordered prior to initiating titration
Medications	
	Select only one cloZAPine module below and ensure correct brand is selected
<input checked="" type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Custom q2day) (Module)
<input type="checkbox"/>	MH cloZAPine (APO or AA PHARMA) (Custom q2day)...
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Custom q2day) (Module)
<input type="checkbox"/>	MH cloZAPine (GENPHARM or MYLAN) (Custom q2d...
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Custom q2day) (Module)
<input type="checkbox"/>	MH cloZAPine (NOVARTIS or HLS) (Custom q2day) (...)

Note: the MH cloZAPine q3day Titration Power Plan will specify "Custom q3day" respectively

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Psychiatry Clozapine Pre-printed Order VCH (VCH.VA.PPO.1049)

IF YOU RECEIVED THIS FACSIMILE IN ERROR, PLEASE CALL 604-875-4077 IMMEDIATELY

Vancouver Coastal Health

VA: VGH / UBCH / GFS

VC: BP / Purdy / GPC

ADDRESSOGRAPH

COMPLETE OR REVIEW ALLERGY STATUS PRIOR TO WRITING ORDERS

Psychiatry Clozapine Orders

(items with check boxes must be selected to be ordered)

(Page 1 of 2)

Date: _____ Time: _____

Time Processed
RN/LPN Initials
Comments

RESTRICTIONS: this order set is to be used only in the Segal Centre on Floors 5-8 and in VGH PAU/PEAT

The physician ordering clozapine should be aware of the potential side effects including myocarditis, seizure, significant hypotension, and agranulocytosis associated with clozapine starts and restarts.

Patient adherence assessment should include the following: PharmaNet Records, Collaborative Information from team/facility and patient reporting.

ASSESSMENT: ☐ New Start or Restart (non-adherent for 2 or more days)

Pharmacist and Psychiatrist to complete Clozapine Registration Form
(GenPharm, AA Pharma, or CSAN; see reverse for completion instructions)

OR

☐ clozapine continuation (patient adherent with treatment or non-adherent for less than 2 days)

Adherence confirmed by: ☐ Community Pharmacy

☐ Housing

☐ Mental Health Team

☐ Other: _____

Brand name Registration Number: ☐ AA-Pharma (AASPIRE) # _____

☐ Genpharm (GenCAN) # _____

☐ Clozaril (CSAN) # _____

Clozapine will only be supplied by pharmacy once it is confirmed that patient has a valid clozapine registration number and/or an approval to start by one of the 3 drug companies. Please ensure baseline CBC Diff is within normal limits before starting, re-starting, or continuing clozapine.

MONITORING: Document on Clozapine Monitoring Flowsheet (VCH.VA.VGH.0826)

Postural BP and HR BID (AM and HS)

Temperature daily

Monitor for signs of infection and myocarditis; see reverse for details

LABORATORY: Only order fasting glucose and lipid tests if not already done in the past 3 months.

CBC diff baseline then Q Tuesday (Lab fax results to AASPIRE, GenCAN, or CSAN)

CRP and high sensitivity troponin I baseline then Q Tuesdays x 4 weeks

☐ Fasting glucose

☐ Fasting cholesterol, HDL, LDL, triglycerides

DIAGNOSTICS: ECG

Prescriber's Signature _____

Printed Name _____

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College ID _____

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Appendix B: Clozapine Monitoring in Power Chart

MAR Summary

Interactive View and I&O

Results Review

Documentation + Add

Medication Request

Histories

Allergies + Add

Diagnoses and Problems

Calculators

CareConnect

Clinical Research

Form Browser

Growth Chart

Immunizations

Medication List + Add

Patient Information

Reference

✓ MH Evaluation Tools

✓ CIWA-Ar

Objective Alcohol Withdrawal Assessment

BROSET

COWS (Clinical Opiate Withdrawal Scale)

AIMS (Abnormal Involuntary Movement)

Eating Disorders Assessment

Clozapine Monitoring

Result	Comments	Flag	Date	Performed
<div> <div>Clozapine Signs of Myocarditis</div> <div> <input type="checkbox"/> None <input type="checkbox"/> Chest Pain <input type="checkbox"/> HR above 120 BPM <input type="checkbox"/> Baseline HR increase more than 30 BPM <input type="checkbox"/> Shortness of breath <input type="checkbox"/> Peripheral edema <input type="checkbox"/> Fatigue <input type="checkbox"/> Lightheadedness </div> </div>				
<div> <div>Clozapine Monitoring</div> <div> <div>Clozapine Signs of Infection</div> <div>Clozapine Signs of Myocarditis</div> <div>Clozapine Labs Reviewed</div> <div>Clozapine Hematological Status</div> <div>Clozapine Monitoring Comment</div> </div> <div> <div>Clozapine Signs of Infection</div> <div> <input type="checkbox"/> None <input type="checkbox"/> Fever <input type="checkbox"/> Muscle aches <input type="checkbox"/> Sore throat <input type="checkbox"/> Headache <input type="checkbox"/> Diarrhea </div> </div> </div>				

Clozapine Hematological Status

Normal

Yellow drop

Yellow

Red

Clozapine Labs Reviewed

☐ Not Applicable
☐ WBC
☐ Neutrophils
☐ C-Reactive Protein
☐ Troponin

Clozapine Monitoring Flowsheet VGH ([VCH.VA.VGH.0826](#))

Vancouver Coastal Health Vancouver General Hospital

PCIS Label

CLOZAPINE MONITORING FLOWSHEET

VITALS SIGNS – Document on Vital Signs Sheet (VCH-M-37). Postural BP and HR BID (AM and HS)

	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Date:														
Times:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
LABORATORY (Q shift)														
Bloodwork drawn today	<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)		<input type="checkbox"/> No <input type="checkbox"/> Yes (document below)	
WBC	_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L	
Neutrophils (ANC)	_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L		_____ x 10 ⁹ /L	
Hematological Status	<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red		<input type="checkbox"/> Normal <input type="checkbox"/> Yellow Drop <input type="checkbox"/> Yellow <input type="checkbox"/> Red	
For reference, see reverse for hematologic status chart and clozapine monitoring flowchart														
C-reactive protein (CRP)	_____ mg/L		_____ mg/L		_____ mg/L		_____ mg/L		_____ mg/L		_____ mg/L		_____ mg/L	
High sensitivity troponin I	_____ ng/L		_____ ng/L		_____ ng/L		_____ ng/L		_____ ng/L		_____ ng/L		_____ ng/L	
Nurse Initial:														
MONITORING (Q shift) ✓ = Infection or myocarditis symptom present. Document interventions in Progress Notes.														
Infection	Fever													
	Muscle aches													
	Sore throat													
	Headache													
	Diarrhea													
	None													
Myocarditis	Chest pain													
	HR above 100 bpm													
	HR 30 bpm above baseline													
	Shortness of breath													
	Peripheral edema													
	Fatigue													
	Light-headedness													
None														
Constipation (Indicate current day of bowel protocol treatment)	<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)		<input type="checkbox"/> No <input type="checkbox"/> Yes (Day 1 □, Day 2 □, Day 3 □)	
Nurse Initial:	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT	AM SHIFT	PM SHIFT

VCH.VA.VGH.0826 | APR.2021

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Appendix C: VCH-PHC Discharge Summary to Community (BCHA.0101TRIAL)



CLOZAPINE DISCHARGE SUMMARY FAX TO COMMUNITY

To be completed by Hospital Pharmacist or
Care Management Leader (VCH)

Patient demographics

TO:	Mental Health Team	Pharmacy	cloZAPine Program
FAX:			
FROM:	Hospital	Unit	Phone
			FAX

This client is being discharged from _____ on _____
Name of Hospital Date

CLOZAPINE DOSE & BRAND AT DISCHARGE (no substitution): _____

CLOZAPINE MONITORING PROGRAM: _____

CLIENT ID #: _____

BLOODWORK: (CBC with differential)

Frequency of bloodwork: ☐ weekly ☐ every 2 weeks ☐ every 4 weeks

Last bloodwork completed: (date) _____ Result: _____

Next bloodwork due: (date) _____ They plan to go to _____ lab for this.

BEFORE dispensing clozapine, CONFIRM the patient has had their blood work drawn:

- Call their Lab to confirm bloodwork was drawn
- Call specific cloZAPine monitoring program to determine if the bloodwork results have been received. (There may be a delay before they receive these results.)
- Have the patient bring a card from the Lab confirming their bloodwork was drawn

CLOZAPINE MAY ONLY BE DISPENSED in sufficient quantities until their next bloodwork is due (e.g. ONE week's supply if they are on weekly bloodwork).

PAPERWORK / BLOODWORK REQUISITION:

Physician/Case Managers:

- 1) Complete physician and case manager section on the Patient Registration form and fax to appropriate cloZAPine program.
- 2) Complete laboratory requisition for standing bloodwork and **fax copy to lab.**

Community Pharmacist:

Complete Pharmacy Section on the Patient Registration form and fax to appropriate cloZAPine program to register your store as the treatment resource team.

PLEASE CONTACT ME WITH ANY QUESTIONS/CONCERNS.

Pharmacist: _____ Hospital: _____

Phone: _____ Fax: _____

Appendix D: Clozapine Patient Handout

Lower Mainland Pharmacy Services

Clozapine (say klo-za-peen)

What is clozapine?

This medicine is a type of antipsychotic (say an-ee-ay-toe-ick). It is most commonly used to treat symptoms of psychosis (say ayk-lo-ss) such as hearing voices or false beliefs. Psychosis can occur in different types of illnesses such as schizophrenia and bipolar disorder.

Clozapine can also be used to treat other types of illnesses (such as mania) without psychosis.

Clozapine is often used when other antipsychotics do not work or cause intolerable side effects.

You are taking this medicine for:

- ☐ Schizophrenia
☐ Bipolar Disorder
☐ Other: _____

How does clozapine work?

Schizophrenia, bipolar disorder, and other types of illnesses can happen when the chemicals in your brain are out-of-balance.

Clozapine works by restoring the balance of the brain's chemicals. This can help reduce:

- Hallucinations - feeling unusual body sensations; hearing, seeing, smelling or tasting things that are not real
- Delusions - feeling that someone is following you or trying to hurt you; feeling that people are talking about you; or feeling that you have special powers or are famous

Clozapine can also:

- help improve your mood
- help you sleep better
- help you have less unusual body movements caused by other antipsychotic medicines called extrapyramidal (say extra-per-ah-mid-ah) side effects
- help you feel calmer and less fearful
- help you have less harmful thoughts
- help you think more clearly and concentrate better

How quickly will it start working?

Some of your symptoms might get better before others.

- Over the first few weeks, you might find that you sleep better and have fewer mood changes.
- Over the next 2 to 8 weeks, hallucinations or delusions fade away and your thoughts become clearer.
- Other symptoms like having no interest in yourself or others might continue to get better over 6 months or more.

How do I take clozapine?

- Take clozapine regularly as prescribed.
- You can take it with or without food.
- If you miss a dose, take it as soon as possible.
- If it is almost time for your next dose, skip the missed dose and return to your regular schedule.
- Do not take 2 doses at the same time.
- If you miss more than 2 days of clozapine, tell your doctor and/or pharmacist right away. You will need to restart the clozapine at a lower dose and slowly increased back to your current dose.

Why is it important to keep taking it?








- Always take the amount you are supposed to take (the dose written on the prescription label).
- Do not change how much you take.
- Do not stop taking it without talking to your doctor.
- If you do not take it as prescribed, the amount of clozapine in your body can get too low, making it not work as well to treat your symptoms and increase the chances of side effects.

Clozapine - continued

What should I look out for?

Here are some possible side effects and what to do if you notice them.

Common Side Effects

-  **a) Constipation**
This is a very common side effect.
Ask your doctor and/or pharmacist if you should take a medicine to treat the constipation.
-  **b) Blurred vision**
Can happen in the first 1 to 2 weeks and should go away over time.
If the blurred vision does not get better, speak to your doctor and/or pharmacist.
-  **c) Dizziness**
Take your time getting up from a sitting or lying position.
Keep well hydrated by drinking fluids. Water is best. Limit how much alcohol you drink.
-  **d) Drooling**
Mostly happens at night.
Use a small towel on the pillow when sleeping.
Talk to your doctor and/or pharmacist if this continues to be bothersome.
-  **e) Drowsiness**
Always take this medicine at bedtime to reduce daytime drowsiness. Caution: It is dangerous to drive or operate machinery when drowsy.
-  **f) Weight gain**
Choose healthy foods and exercise regularly.
Drink water, instead of sugary beverages.
-  **g) Increase in cholesterol and/or blood sugar**
You should have monthly cholesterol and blood sugar tests. Your medicines as needed.
Healthy foods and exercise can help decrease cholesterol and blood sugar.

Note: While this medicine has more side effects and more blood tests than other antipsychotics, it is important to continue taking it. Clozapine is a very effective medicine for psychosis.

Rare but Serious Side Effects

- a) Low number of white blood cells**
When you have less white blood cells, your body has a harder time fighting off infections (called neutropenia – say new-tro-pee-nee-ah).
Your doctor sends you for regular blood tests so this problem can be caught before it becomes a serious problem. Always get your blood tests done as scheduled so your pharmacy can give you the right amount of clozapine.
Example of blood test schedule:
- Once every week for the first 6 months
- Once every 2 weeks for the next 6 months
- Once every 4 weeks after 1 year
Watch for symptoms of infection such as a fever, sore throat, and other symptoms that feel like you are getting the flu.
- b) Myocarditis and cardiomyopathy**
Clozapine can cause a rare allergic reaction involving your heart muscle (called myocarditis – say my-oh-card-eye-iss).
You might need to have regular blood tests to check for this, especially when you begin clozapine.
Clozapine can rarely cause your heart muscles to become weaker (called cardiomyopathy – say card-ee-oh-my-op-ah-thee).
This can happen months to years after starting clozapine.
Watch for symptoms such as chest pain, shortness of breath, racing heartbeat, severe headache, general muscle pain, and feeling tired all the time.
- c) Seizures**
Tell your doctor right away if you have had seizures in the past, and/or if you have any new seizures or black-outs.
- d) Neuroleptic Malignant Syndrome**
Any antipsychotic can cause this very rare side effect.
Symptoms include a very high fever, sweating, fast heartbeat, breathing fast, changes in blood pressure, rigid or stiff muscles, and confusion.



This information does not replace the advice given to you by your healthcare provider.

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Clozapine - continued

When should I get help?

See your doctor as soon as possible if:

- Your symptoms of psychosis are getting worse or returning.
- You are feeling hopeless, or you feel that there is no way to solve the problem or end the pain.
- Any of the common side effects do not go away or gets worse.
- You notice any symptoms of infection such as a fever or sore throat.

Go to the nearest Emergency Department if:

- You feel like acting on thoughts of harming yourself and/or others.
- You feel very sick like you have the flu.

Call 9-1-1 if you have:

- Any chest pain or problems breathing.
- Any symptoms of neuroleptic malignant syndrome.

What else should I know?

Other medicines can change how clozapine works.

Always check with your doctor and/or pharmacist before taking any other medicines, including prescription, over-the-counter and herbal medicines.

Smoking cigarettes and/or cannabis can lower the amount of clozapine in your body. Tell your doctor and/or pharmacist if you smoke, stop smoking, or change how much you smoke.

It is important to get your blood tests on time to make sure you do not have neutropenia. If you do not get your blood test, your pharmacy might not give you more clozapine.

Clozapine comes in different brands. It is important to take the same brand of clozapine every day. Talk to your pharmacist right away if you are given a different brand of clozapine than before.

It's good to ask questions

Anytime you have any questions or concerns about taking this medicine, talk with one of your healthcare team.

Call 9-1-1 (HealthLinkBC) after hours and for any other health advice.

HealthLinkBC is open 24 hours a day and available in 120 languages. For an interpreter, say your language in English. Wait until an interpreter comes on the phone.

This information does not replace the advice given to you by your healthcare provider.

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