

Adult Clozapine Titration Chart

Facility / Service: _____
 Ward / Unit: _____ Year: **20** _____
 Clozapine Patient Number (CPN): _____

(Affix identification label here)

URN: _____
 Family name: _____
 Given name(s): _____
 Address: _____
 Date of birth: _____ Sex: M F I

NOT A VALID
 PRESCRIPTION UNLESS
 IDENTIFIERS PRESENT

First Prescriber to Print Patient Name and Check Label Correct:

Clozapine Monitoring

Investigations	if required (✓) if required	Results										After 28 days
		Baseline		Date (day 7):		Date (day 14):		Date (day 21):		Date (day 28):		
		Date completed	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal	Normal	
Full Blood Count (FBC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Then continue weekly first 18 weeks then monthly
White Blood Cell (WBC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Neutrophils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Eosinophils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Troponin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Then at 3 months then annually
C-Reactive Protein (CRP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Then continue as per local safe and quality use of clozapine procedure
Electro Cardiograph (ECG)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Liver Function Test (LFT)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Urea and Electrolytes (U&E)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Blood group	<input type="checkbox"/>											
Plasma glucose - fasting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									Then at 6 months then 12 months
Total cholesterol - fasting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									Then at 3 months then every 6 months
Low Density Lipoprotein - fasting (LDL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
High Density Lipoprotein - fasting (HDL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
Triglycerides - fasting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
Beta Human Chorionic Gonadotropin - female (Beta HCG)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							As required
Cardiac ECHO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									Then continue as per local safe and quality use of clozapine procedure
Clozapine level	<input type="checkbox"/>											
Full physical exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>									
Height	<input type="checkbox"/>		m									
Weight	<input type="checkbox"/>		kg		kg		kg		kg		kg	Then continue monthly
Waist	<input type="checkbox"/>		cm								cm	
BMI [weight (kg) / height (m ²)]	<input type="checkbox"/>											
Smoking - cigarettes per day	<input type="checkbox"/>											
	<input type="checkbox"/>											As required

These are suggested guidelines only, refer to the treating psychiatrist for individual monitoring requirements. Check Auslab / Auscare for Normal and Abnormal test parameters.

Modified from: Taylor D, Paton C, Kapur S. The Maudsley Prescribing Guidelines. 10th ed. London(UK):Informa Healthcare UK Ltd; 2009.

Clozapine Titration Guide

Pre Commencement

- Assess current smoking status
- Review and document medical history
- Provide and explain clozapine information to consumer and family/carer
- Complete local clozapine prescribing requirements
- Inform local authorities as required
- Provide pharmacist with blood test results and prescription
- Complete all locally required authorisations
- Complete *Clozapine Monitoring* see page 1

Blood Test Monitoring

If clozapine dose missed for 72 hours or less:

- Monitoring should continue as normal with no additional requirements

If clozapine dose missed for 72 hours but less than 4 weeks:

- During the first 18 weeks - monitor weekly for at least 6 weeks or for as long as necessary to achieve a total of 18 weeks monitoring. For example if therapy is interrupted:
 - a) after 15 weeks monitor with weekly blood tests for 6 weeks after clozapine is recommenced
 - b) after 9 weeks monitor with weekly blood tests for 9 weeks after clozapine is recommenced
- Consumers on monthly monitoring - monitor weekly for 6 weeks then continue with monthly monitoring if no problems detected

If clozapine dose missed for 4 weeks:

- Monitoring should recommence as for a new consumer

Observation Procedure

Refer to hospital procedure. Where this is unavailable the following are suggested monitoring guidelines.

For Initial Dose:

- Take temperature, pulse, respiration (TPR), and lying and standing blood pressure (BP) prior to administration of clozapine
- Administer clozapine as prescribed
- Repeat observations:
 - Half hourly for 2 hours
 - 1 hourly for 4 hours
- If above observations are outside normal parameters, seek medical review

Subsequent Dose:

- Twice daily - TPR and lying and standing BP
- Take observations pre-dose, and 4-6 hours post-dose

Smoking:

- If change in smoking status notify Medical Officer

Management of side effects associated with clozapine therapy

Side effect	Time course for onset	Recommended actions
Neutropenia / Agranulocytosis	First 18 weeks (but may occur at any time)	Refer to <i>Clozapine Blood Results Monitoring System</i> table on page 3. Admit to hospital if agranulocytosis is confirmed. Symptoms may include a sore throat or fever.
Myocarditis / Cardiomyopathy	Myocarditis - within 6-8 weeks of starting Cardiomyopathy - may occur at any time	Cease clozapine. Admit to hospital if myocarditis or cardiomyopathy is confirmed. May present with flu-like symptoms.
Constipation	Usually persists	Potentially life threatening therefore effective treatment or prevention of constipation is essential. Recommend high-fibre diet. Use bulk forming laxatives and stimulants.
Sedation	First few months May persist, but usually wears off	Give smaller dose in the morning. Reduce dose if necessary - check plasma level.
Hypersalivation	First few months Very troublesome at night	Manage according to severity of symptoms. See literature for pharmacological options.
Hypotension	First 4 weeks	Reduce dose or slow down rate of increase. Advise consumer to slowly stand up from a lying or sitting position.
Hypertension	First 4 weeks, but sometimes longer	Increase dose slowly. Hypotensive therapy may be necessary.
Tachycardia	First 4 weeks, but sometimes persists	Common in early stages. If persistent at rest and associated with fever, hypotension or chest pain may indicate myocarditis. Refer to cardiologist.
Weight gain	Usually during the first year of treatment	Ensure dietary counselling before weight gain occurs.
Fever	First 3 weeks	Give antipyretic, perform urgent FBC and cardiac enzymes. Seek urgent medical review.
Seizures	May occur at any time	Consider prophylactic valproate if on high dose or with high plasma level.
Nausea	First 6 weeks	May give anti-emetic. Avoid prochlorperazine and metoclopramide if caused previous Extra Pyramidal Side Effects. Consider Gastro Oesophageal Reflux Disease (GORD).
Nocturnal enuresis	May occur at any time	Review dose schedule. Avoid fluids before bedtime. Seek Medical Review.

This is not an exhaustive list of side effects. Please see product information for further advice.

Modified from: Taylor D, Paton C, Kapur S. The Maudsley Prescribing Guidelines. 10th ed. London(UK):Informa Healthcare UK Ltd; 2009.

ADULT CLOZAPINE TITRATION CHART

DO NOT WRITE IN THIS BINDING MARGIN

Adult Clozapine Titration Chart

Facility / Service: _____
 Ward / Unit: _____ Year: **20** _____
 Clozapine Patient Number (CPN): _____

Attach ADR Sticker

(See Medication Chart for details)

(Affix identification label here)

URN: _____
 Family name: _____
 Given name(s): _____
 Address: _____
 Date of birth: _____ Sex: M F I

NOT A VALID PRESCRIPTION UNLESS IDENTIFIERS PRESENT

First Prescriber to Print Patient Name and Check Label Correct:

Family name: _____ Given name(s): _____ URN: _____

Clozapine Blood Results Monitoring System		Recommended Action
Green Range	WBC greater than 3.5 x 10 ⁹ /L <i>and</i> Neutrophils greater than 2.0 x 10 ⁹ /L	Continue clozapine therapy.
Amber Range	WBC 3.0–3.5 x 10 ⁹ /L <i>or</i> Neutrophils 1.5–2.0 x 10 ⁹ /L	Continue clozapine therapy with twice-weekly blood tests until return to 'green' range.
Red Range	WBC less than 3.0 x 10 ⁹ /L <i>or</i> Neutrophils less than 1.5 x 10 ⁹ /L	Stop clozapine therapy immediately. Refer to clozapine protocols for management guidelines.

Modified from *Clozapine Titration Protocols*

♥ Conduct weekly blood monitoring as per Clozapine Monitoring on page 1

Do not prescribe clozapine until approvals obtained consistent with local procedure

Date			Medication Clozapine														Date																
			Day	1	2	3	4	5	6	7♥	8	9	10	11	12	13	14♥	15	16	17	18	19	20	21♥	22	23	24	25	26	27	28♥	Day	
Route	Frequency	Prescriber to enter individual doses.	Date (day / month)																													Date (day / month)	
Oral	Morning																																
Prescriber's signature																																	
Prescriber's name (please print)																																	
Contact details																																	
Pharmacy																																	
Comments																																	
			Dose																													Dose	
			mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	mg	
			Prescriber (initials)																													Prescriber (initials)	
			0800hrs Nurse (initials)																													0800hrs Nurse (initials)	
Date			Medication Clozapine														Date																
			Dose																													Dose	
Route	Frequency	Prescriber to enter individual doses.	Date (day / month)																													Date (day / month)	
Oral	Evening																																
Prescriber's signature																																	
Prescriber's name (please print)																																	
Contact details																																	
Pharmacy																																	
Comments																																	
			Pharmacist Review																													Pharmacist Review	

Clozapine Titration Schedule (this table is a guide only)

If rapid or slower titration required refer to the treating psychiatrist.
 In an attempt to minimise side effects the following dosing schedule is suggested:

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Morning	12.5mg	25mg	25mg	25mg	25mg	25mg	25mg	25mg	50mg	50mg	50mg	50mg	50mg	50mg
Evening				25mg	25mg	50mg	75mg	100mg	100mg	100mg	125mg	125mg	125mg	150mg

Titration beyond 200mg/day: If well tolerated the daily dose may be increased slowly in increments of 25–50mg.
 (Modified from *Clozapine Titration Protocols*)

Dosing recommendations if clozapine dose is missed for greater than 48 hours

- Obtain psychiatric review prior to recommencing clozapine.
- Recommence at 12.5mg once or twice daily on the first day. If well tolerated the dose may be increased slowly as per the *Clozapine Titration Schedule*.

This is a guide only - for further dosing options refer to treating psychiatrist.

For frequency of blood testing required, refer to Blood Test Monitoring section on page 4.

Reason For Not Administering (codes must be circled)

Absent	(A)	Refused - notify Dr	(R)
Fasting	(F)	Self Administered - observed or claimed	(S)
On leave	(L)	Vomiting - notify Dr	(V)
Not available - obtain supply and / or notify Dr, consider incident report	(N)	Withheld - enter reason in clinical record	(W)

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