Chemicals in tobacco smoke (polycyclic aromatic hydrocarbons) accelerate the metabolism of clozapine and olanzapine (by inducing the cytochrome enzyme CYP1A2) lowering drug blood levels.

As a result, blood levels of clozapine and olanzapine can rise significantly within days of quitting or reducing cigarette consumption to <7 cigarettes daily.

Clozapine and olanzapine have a narrow therapeutic index and increases in blood levels can cause serious toxic effects.

Patients need monitoring for increased sedation or other side effects as well as more regular testing of clozapine levels after cessation or reduction.

Urgent dose adjustments in the first few days after quitting may be required. Steady state blood levels are achieved after about a week.

Nicotine replacement therapy use DOES NOT affect clozapine or olanzapine levels.

**ON PRESENTATION:**

All smokers currently prescribed clozapine or olanzapine

1. Assess clinically.
2. Record current clozapine or olanzapine dosage in notes.
3. Assess compliance with clozapine or olanzapine treatment.
4. Establish smoking intention while admitted (smoking cessation or continued smoking – strongly encourage cessation)
5. Test clozapine level on admission and record in notes.

If a current smoker, or recent quitter, assess for nicotine dependence and provide NRT if clinically appropriate.

Use Tools 1-7 to assist in managing and monitoring nicotine dependence.

Use Tool 10 before discharge to ensure consumer is assisted to remain smoke-free after discharge.

**Consumer ceases smoking or reduces (<7 per day) when admitted**

If known to be taking clozapine or olanzapine regularly

Consider a dose reduction of:
- 30% for olanzapine
- 50% for clozapine

If not taking clozapine or olanzapine regularly or stopped prior to admission

- re-start clozapine or olanzapine at a lower reduced dose than was prescribed when consumer was smoking

**Clinically monitor for side effects of higher serum levels including:**
- sedation
- hypersalivation
- hypotension
- seizures or other neurological effects
- akathisia and prolonged QTc interval.

Test clozapine levels regularly

Adjust dosage as appropriate.

**Note:** There is no ‘right’ blood level of clozapine or olanzapine; the aim is symptom control without toxicity. At all times, clinical assessment overrides suggestions made in this guide.