

### Rapid Tranquillization – monitoring

After any parenteral drug administration, monitor the following:

**Temperature**

**Pulse**

**Blood Pressure**

**Respiratory Rate**

Every 5-10 minutes, for one hour, then half-hourly until patient is ambulatory.

If the patient is asleep or **unconscious**, the use of pulse oximetry to continuously measure oxygen saturation is desirable. A nurse should remain with the patient until they are ambulatory again.

ECG and haematological monitoring are also strongly recommended when parenteral antipsychotics are given, especially when higher doses are used. Hypokalaemia, stress, and agitation place the patient at risk of cardiac arrhythmias.

### Remedial measures in rapid tranquillization

<i>Problem</i>	<i>Remedial measures</i>
<b>Acute dystonia</b> (including Oculogyric crises)	Give <b>procyclidine</b> 5-10 mg IM
<b>Reduced respiratory rate</b> (<10/min) or oxygen saturation (<90%).	Give oxygen; raise legs; <b>ensure patient is not lying face down</b> . Give <b>flumazenil</b> if benzodiazepine-induced respiratory depression suspected (see protocol). If induced by any other sedative agent <b>ventilate mechanically</b> .
<b>Irregular or slow pulse</b> (<50/min)	<b>Refer</b> to specialist medical care immediately.
<b>Fall in blood pressure</b> (>30mmHg orthostatic drop or <50mmHg diastolic)	<b>Lie patient flat</b> , tilt bed towards head, Monitor closely.
<b>Increased temperature</b>	<b>Withhold antipsychotics</b> (risk of NMS and perhaps arrhythmias). Check creatinine kinase urgently.

### Guidelines for the use of flumazenil

<b>Indication for use</b>	If, after the administration of lorazepam or diazepam, respiratory rate falls below 10/minute.
<b>Contra-indications</b>	Patients with epilepsy who have been receiving long-term benzodiazepines.
<b>Caution</b>	Dose should be carefully titrated in hepatic impairment.
<b>Dose and route of administration</b>	<i>Initial 200mcg intravenously</i> over 15 seconds – if required level of consciousness not achieved after 60 seconds then, <b>Subsequent dose:</b> 100 mcg over 10 seconds.
<b>Time before dose can be repeated</b>	60 seconds
<b>Maximum dose</b>	1mg in 24 hours (one initial dose and eight subsequent Doses).
<b>Side effects</b>	Patients may become agitated, anxious, or fearful on awakening. Seizures may occur in regular benzodiazepine users.
<b>Management</b>	Side effects usually subside.
<b>Monitoring</b>	
<ul style="list-style-type: none"> <li><b>What to monitor?</b></li> <li><b>How often?</b></li> </ul>	Respiratory rate Continuously until respiratory rate returns to baseline level. Flumazenil has a short half-life (much shorter than diazepam) and respiratory function may recover then deteriorate again.
<b>Note: If respiratory rate does not return to normal or patient is not alert after initial dose given, then assume sedation due to some other cause.</b>	

Acknowledgements: The Maudsley Prescribing Guidelines 2003, 7<sup>th</sup> edition, P.238-239.

- References:1. Appleby I, Thomas S, Ferrier N *et al*. Sudden unexplained death in psychiatric in-patients. *British Journal of Psychiatry* 2000;176;405-406.  
2. Yap YG, Camm J. Risk of torsades de pointes with non-cardiac drugs. *BMJ* 2000, 320;1158-1159.  
3. Taylor DM. Antipsychotics and QT prolongation. *Acta Psychiatrica Scandinavica* 2003;107: 85-95.