



Sir Charles
Gairdner Hospital

NURSE PRACTITIONER CLINICAL PROTOCOLS

For

Mental Health Consultation – Liaison Services

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Acknowledgements:

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CLINICAL PROTOCOL 2: THE MANAGEMENT OF DYSTONIC REACTIONS AS A RESULT OF THE PRESCRIPTION OF NEUROLEPTIC MEDICATIONS.

Neuroleptic medications are used widely in the treatment of psychotic disorders especially schizophrenia and the therapeutic effectiveness of these medications is well established in the treatment of these disorders. Used both in the acute and maintenance phases of treatment they provide assistance in reducing symptoms such as delusions and hallucinations and are they mainstay of modern psychiatric treatment (Lawson et al, 2006).

Unfortunately, these drugs are also associated with a significant number of troubling side-effects including movement disorders and dystonias. These symptoms can occur within several days of prescription and dystonias occur in up to 33% of patients being treated with neuroleptic drugs and up to 1% of patients prescribed antiemetic drugs such as metoclopramide or prochlorperazine with young men being at particular risk. Some instances of dystonic reactions have been reported with other classes of drugs such as H₂ antagonists, erythromycin and antihistamines but the majority of reactions are due to the use of neuroleptic or antiemetic medications. A number of risk factors have been postulated including age, psychiatric diagnosis, psychopathology, medication dose and treatment duration but no clear predictors have been identified at this point (Lawson et al, 2006; Campbell, 2001; Keks, 2004; Soares & McGrath,1997; Bower, 1991; Therapeutic Guidelines, 2005). Stoner (2000) reports that that the high incidence of these side-effects contributes significantly to patient non-compliance and interruptions to psychiatric treatment.

The mechanism of action of neuroleptic medications is not fully understood and they are believed to act by blocking dopamine receptors in the brain which accounts for their therapeutic effects. This blockage produces an imbalance between dopamine and acetylcholine levels in the nigro-striatal pathways of the brain which explains dystonic reactions (Lawson et al, 2006; Gareri et al, 2003; Stoner et al, 2000). In addition, Stoner (2000) cites Lohr and Caliguiri who postulate that the high turnover of dopamine in the mesocortical and mesolimbic areas of the brain as a consequence of these drugs results in the production of toxic oxygen radicals which may contribute to the development of dystonias.

Experiencing a dystonic reaction is extremely distressing and frightening for patients and potentially life threatening as well as being painful. The area most often affected are the face, trunk, neck and hands.

PROCESS	ACTION	REFERENCE	LEVEL OF EVIDENCE
Assessment	<p>Types of Dystonia's</p> <ul style="list-style-type: none"> • Laryngospasm (can be fatal) Client may complain of suffocation or be unable to speak (listen for stridor) • Torticollis (Head forced to one side) • Retrocollis (head forced backwards) • Protruding tongue with difficulty swallowing • Opisthotonos (hyperextension of the back) • Oculogyric Crisis (eyes rolled upwards or laterally) <p>Differential Diagnosis:</p> <ul style="list-style-type: none"> • Tetanus & Strychnine Poisoning • Hyperventilation (carpopedal spasm is usually more prominent than it is in acute dystonic reaction) • Hypocalcaemia and hypomagnesaemia • Primary neurological cases such as Wilson's disease. 	<p>Gareri et al (2003)</p> <p>Lawson et al (2006)</p> <p>Campbell (2001)</p> <p>Keks (2004)</p> <p>Therapeutic Guidelines (2005)</p> <p>Campbell (2001)</p>	<p>F</p> <p>E</p> <p>G</p> <p>G</p> <p>G</p> <p>G</p>
Treatment	<ul style="list-style-type: none"> • benztropine <ul style="list-style-type: none"> - 2mg intra-muscularly - 2 mg orally 	<p>Campbell (2001)</p> <p>Therapeutic Guidelines (2005)</p>	<p>G</p> <p>G</p>
Observation	<p>Observe for:</p> <ul style="list-style-type: none"> • Effectiveness • Side-Effects (because Benztropine has a cumulative action continued close supervision is required) <ul style="list-style-type: none"> - Gastrointestinal - constipation, dry mouth, nausea and vomiting 	<p>MIMS (1996 - 2007)</p>	<p>G</p>

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	<ul style="list-style-type: none"> - Cardiovascular – tachycardia - Nervous system – toxic psychosis (confusion, disorientation, memory impairment, visual impairment, visual hallucinations, exacerbation of pre-existing psychotic symptoms, nervousness, depression, listlessness, numbness of fingers) - Special senses – blurred vision, dilated pupils - Urogenital – urinary retention, dysuria - Metabolic / Immune and skin – allergic reaction (occasional only) - Other – heat stroke, hyperthermia, fever. 		
Contraindications	<p>Because of the atropine – like side-effects, Benztropine is contraindicated</p> <ul style="list-style-type: none"> • In children under 3 years of age • Hypersensitivity to any component of the drug 	MIMS (1996 – 2007) Therapeutic Guidelines (2005)	G G
Precautions	<p>Benztropine may be used only under close supervision</p> <p>* In patients demonstrating the following;</p> <ul style="list-style-type: none"> • Tachycardia • Prostatic Hypertrophy • Complaints of weakness and an inability to use certain muscle groups (usually after dystonic reaction has abated) – dose readjustment may need to be considered. • Mental confusion and / or excitement and / or visual hallucinations. • Tardive Dyskinesia (Benztropine usually is ineffective in this condition) <p>In hot weather – benztropine contains structural features of atropine and</p>	MIMS (1996 – 2007)	G

	<p>may produce anhidrosis and as a result should be used cautiously in patients who;</p> <ul style="list-style-type: none">• are taking other atropine like drugs• are chronically ill• are alcohol dependent• have a CNS disease• are employed in a job where manual labour in hot weather is required.• Have a disturbance in sweating• Have narrow angle glaucoma.		
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MANAGEMENT OF DYSTONIC REACTIONS PATHWAY

