SECTION: Adult General Medical Emergencies

PROTOCOL TITLE: Medical – Dystonic/Extrapyramidal Reaction

REVISED: 06/2017

Protocol 3-6

DYSTONIC REACTION

OVERVIEW:
Dystonic or extra-pyramidal reactions are characterized by an unusual posture, change in muscle tone, drooling, and / or uncontrolled movements. Although dystonic reactions are occasionally dose related these reactions are more often idiosyncratic and not predictable. Dystonia results from drug-induced alteration of the dopaminergic-cholinergic balance in the basal ganglia. Risk factors include, but are not limited to, family history of dystonia, recent history of cocaine or alcohol use, or treatment with a potent dopamine D_2 receptor antagonist such as fluphenazine and almost every anti-psychotic medication. Diphenhydramine, when administered, usually causes marked improvement, if not total resolution of symptoms.

HPI	Signs and Symptoms	Considerations
• Onset of symptoms • Medications • Illicit drug use • History of past reaction	• Eye deviation in all directions • Protrusion of the tongue • Forced jaw opening or spasms • Facial grimacing • Deviation of the head • Difficulty speaking	• Conversion disorder • Mandible dislocation • Hypocalcemia • Hypomagnesemia • Meningitis • Status Epilepticus • Stroke • Tetanus • Drug toxicity (Anticholinergic, Carbamazepine, Phenytoin, Valproate)

	EMR	EMT	A	I	P
1. Perform general patient management.	•	•	•	•	•
2. Administer oxygen to maintain *SPO$_2$* 94 - 99%	•	•	•	•	•
3. If patient is having a seizure, refer to the *Seizure protocol.*	•	•	•	•	•
4. Obtain a blood glucose sample. If < 60 mg / dl or > 300 mg / dL, refer to *Hypoglycemia or Hyperglycemia protocol.*		•	•	•	•
5. Place patient on cardiac monitor and obtain *12 lead ECG* if indicated.		•	•	•	•
6. Establish IV of Normal Saline, titrate to maintain systolic BP > 90 mmHg; alternatively may establish NaCl lock.			•	•	•
7. Administer *DIPHENHYDRAMINE* (Benadryl) 25 - 50 mg IV or IM.			•	•	•
8. Transport in position of comfort and reassess.		•	•	•	•

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Continued

DYSTONIC REACTION

Common Types of Dystonia
Spasmodic Torticollis – Commonly called wry neck or cervical dystonia, is the most common form of focal dystonia. This form affects the muscles in the neck, causing the head to assume unnatural postures or turn uncontrollably. The head may turn (laterocollis), twist to one side (rotational torticollis), tilt forward (anterocollis), or tilt backward (retrocollis).
Blepharospasm – This is the second most common form of focal dystonia causing involuntary contraction of the eyelids, leading to uncontrollable blinking and closure of the eyes.

Common Medications Causing Dystonia

Anti-depressants	Neuroleptic Agents	Miscellaneous Agents
• Amitriptyline • Amoxapine (Asendis) • Bupropion • Clomipramide (Anafranil) • Doxepin (Sinequan) • Trimipramine (Surmontil) • Trazadone (Desyrel)	• Chlorpromazine (Largactil) • Clozapine (Clozaril) • Fluphenazine (Prolixin) • Haloperidol (Haldol) • Perphenazine (Fentazin) • Promazine • Trifluoperazine (Stelazine)	• Lithium (Priadel) • Midazolam • Phenytoin (Dilantin) • Promethazine (Phenergan) • Verapamil (Calan)

Anti-anxiety Agents	Anti-nausea / vomiting agents
• Alprazolam (Xanax) • Buspirone (Buspar)	• Metoclopramide (Reglan) • Prochlorperazine (Stemetil)

PEARLS:

1. Incidence of acute dystonic reactions vary according to individual susceptibility, drug identity, dose, and duration of therapy.
2. A small population of all patients on neuroleptic medications have dystonic reactions.
3. In rare instances, although abnormal, airway management may be needed.
4. Dystonic reactions are rarely life threatening and result in no long-term effects.
5. Risk of reaction typically decreases with age and tends to be most common in children, teens, and young adults (< 45 years old).