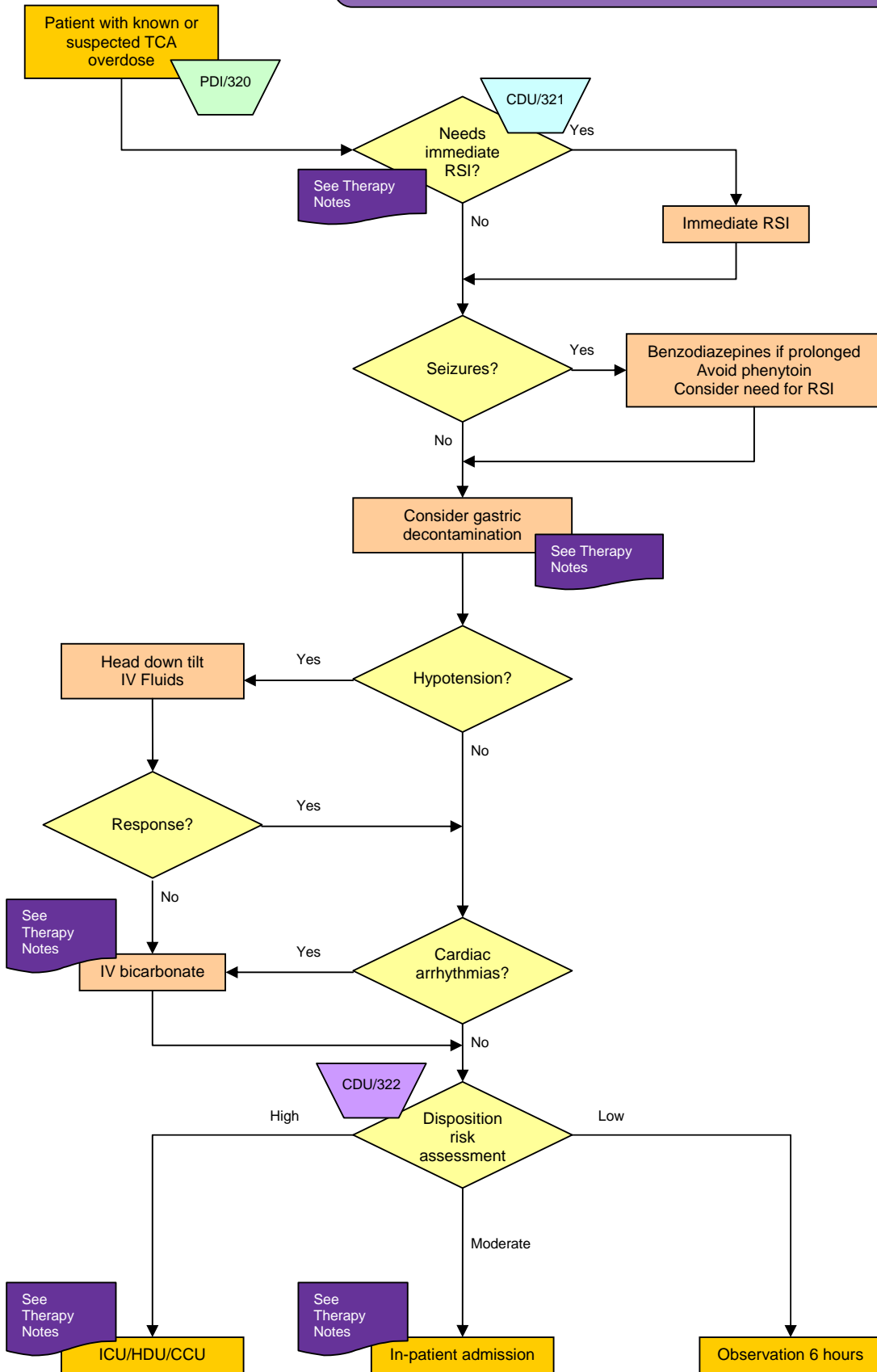


EVIDENCE-BASED FLOWCHART FOR THE MANAGEMENT OF TRICYCLIC ANTIDEPRESSANT OVERDOSE



PDI/320: SUITABILITY FOR PROTOCOL DRIVEN INVESTIGATION (ALL YES)

Over 16 years old	Yes
Known or suspected TCA overdose	Yes
No other agents ingested	Yes

Order: T, P, R, BP, SpO2
 Immediate ECG and cardiac monitor
 Blood gas (venous or arterial)

CDU/321: NEED FOR IMMEDIATE RSI (ANY YES)

Airway compromise	Yes
Inadequate respiration (bradypnoea, hypoxia, significant hypercapnia)	Yes
GCS \leq 8/15	Yes
Unmanageable agitation	Yes

CDU/322: DISPOSITION RISK ASSESSMENT**(HIGH IF ANY H, LOW IF ALL L AND NO H, OTHERWISE MODERATE)**

Indications for RSI present	HIGH	
Persistent hypotension or inotrope/vasopressor support required	HIGH	
GCS $<$ 14/15	HIGH	
Cardiac arrhythmias	HIGH	
Alert (GCS 15/15)		LOW
Normal ECG (including QRS width $<$ 0.10s and no right axis deviation)		LOW
Normal heart rate (60-100bpm)		LOW
Systolic blood pressure \geq 100mmHg		LOW
$>$ 2 hours since ingestion		LOW

THERAPY NOTES

Indications for RSI: TCA overdose delays gastric emptying and may cause vomiting, increasing aspiration risk, particularly in patients with reduced level of consciousness. A low threshold for early intubation should be adopted and the need should be continually reassessed. It is imperative to ensure the availability of adequate expertise during rapid sequence induction.

Gastric decontamination: Activated charcoal may be considered for use within 1 hour of TCA ingestion but only in patients with an intact or secured airway. The potential risk of aspiration should be strongly considered before use. Gastric lavage may be considered for potentially life-threatening TCA overdoses only when it can be delivered within 1 hour of ingestion and the airway is protected.

Hypotension: TCA overdose causes hypotension by reducing preload and afterload as well as direct effects on the myocardium. Optimising the preload may reverse hypotension. This may be achieved by head-down tilt and bolus of intravenous fluid. Sodium bicarbonate may reverse hypotension even in the absence of acidosis and is indicated if hypotension is persistent. If hypotension still persists, vasopressors/inotropes should be used. There is some evidence that epinephrine may be preferable to norepinephrine in this situation.

Arrhythmias: Administration of sodium bicarbonate, even in the patient without acidosis, may reverse TCA-induced arrhythmias. If arrhythmias are persistent, magnesium sulphate may be given, although there is limited available evidence for its efficacy.

ECG abnormalities: QRS prolongation ($>$ 0.10s) and right axis deviation are associated with increased risk of cardiac arrhythmias. The use of sodium bicarbonate should be strongly considered in this situation.

Sodium bicarbonate: For life-threatening toxicity use 50-100ml 8.4% sodium bicarbonate. The dose can be repeated with blood gas monitoring to a target pH of 7.45-7.55. For more stable patients 500ml 1.26% sodium bicarbonate carries less risk of skin necrosis in the event of extravasation.

Seizures: Prolonged seizures should be treated initially with benzodiazepines. Phenytoin should be avoided because of a possible interaction with TCA's. If there is no response to benzodiazepines RSI should be considered.

ECG monitoring is essential for all patients at moderate/high risk. Serial 12-lead ECG recording is recommended in all patients to monitor for changes in QRS duration.