

PROTOCOL FOR: Labetalol (Normodyne, Trandate): IV Administration

- POLICY:**
1. This drug is to be administered only in critical care areas where patient is on a cardiac monitor.
 2. Labetalol may be given by 2 methods - repeated IV bolus or continuous infusion - both methods are discussed below. If administered as continuous infusion, this must be administered on an infusion pump, using drug guardrails.

INDICATION: Hypertension

DESIRED PATIENT

OUTCOME: Patient will achieve effective blood pressure control (reduction in blood pressure) without suffering negative side effects of Labetalol.

**CLINICAL
ASSESSMENT AND**

- CARE:**
1. Prior to Starting Infusion:
 - a. Validate solution concentration per MD order:

Standard: **500 mg/500 ml** NS or D₅W (1 mg/ml)
Double: 1000 mg/500 ml NS or D₅W (2 mg/ml)
 - b. Infusion dosing is in **mg/min.**
 - c. Perform baseline systems assessment.
 - d. Discuss VS parameters with the physician/LIP before starting Labetalol drip & obtain parameters order. (Usual target is SBP 100-120 or MAP > 60 or HR 60-80).
 - e. Labetalol should not be started if the patient is hypotensive w/ SBP < 90 or HR < 60. Notify MD/LIP.
 - f. Place the patient in a supine position, with HOB flat (if tolerated and patient is NPO), or no >30 degrees during initial titration. Maintain HOB no > 30 degrees up to 3 hours after titration is completed due to potential orthostatic changes.
 2. During Bolus Administration / Infusion:
 - a. Labetalol may be given by 2 methods - repeated IV bolus or continuous infusion.
 - 1) Repeated IV Bolus:
 - a) The initial Labetalol dose of 5-20 mg should be given as a slow injection over a 2 minute period.
 - b) **B/P** should be measure immediately before, and **5 minutes** and **10 minutes** after the initial dose. The maximum effect usually occurs within 5 minutes of each injection.
 - c) If desired response is not obtained, additional doses (i.e. 40, 80, 160 mg) may be given, at **10 minute intervals** per MD/LIP order, to a **cumulative maximum dose of 300 mg**. Each successive dose is usually double the amount of the prior dose.

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2) Slow Continuous Infusion:

- a) The infusion should be administered at an initial rate of **0.5 mg/min**.
- b) If insufficient response, administer IV bolus as ordered before increasing the rate of infusion. The infusion may be adjusted by **0.5 mg/min** every **15 minutes** according to the BP response, to a **maximum dose** of **2 mg/min (120 mg/hr)**.
- c) Frequent BP monitoring is necessary, as rapid falls in either systolic or diastolic blood pressure may occur. Monitor patient's **BP every 15 minutes** during titration until patient's BP is within desired parameters and then monitor patient's BP and HR **every 1 hour** and prn.
- d) The infusion should be continued until a satisfactory response is obtained and should then be titrated to off in a similar manner once an oral dose has been given.

3. Notify the physician/LIP if the specified SBP or HR is not achieved at the maximum dose, or if significant hypotension (BP < 90), decreased HR (< 60), intolerable dizziness, seizure activity, or an abnormal glucose occurs.

4. Potential Complications:

- a. Do not use in patients with a history of bronchial asthma.
- b. Use cautiously in patients with CHF, chronic bronchitis and emphysema.
- c. Bronchospasm may occur, which may necessitate the administration of epinephrine and/or an aerosolized beta₂ - agonist per MD/LIP order.
- d. If severe hypotension or bradycardia occurs, stop the infusion and notify MD/LIP.
- e. Excessive bradycardia may be treated with atropine or epinephrine per MD/LIP order.
- f. The beta adrenergic blockage reduces the release of insulin in response to hyperglycemia. It also may prevent the appearance of premonitory signs and symptoms of hypoglycemia. It is recommended that a serum glucose or a fingerstick glucose be checked every 6 hours.
- g. Overdosage may produce seizures - administer diazepam per MD/LIP order to correct.

PATIENT TEACHING: 1. Reinforce the rationale for Labetalol therapy; also explain rationale for keeping the HOB flat or no > 30 degrees during infusion, and need for frequent BP monitoring.

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2. Review the potential side effects associated with Labetalol (scalp tingling, dizziness, nausea/vomiting) and the interventions used to manage them.
3. Reinforce the importance that the patient report any side effects to the nurse.

APPROVAL: ICU Standards Committee
Nursing Standards Committee
Pharmacy Review

EFFECTIVE DATE: 10/90

REVISION DATES: 1/92, 1/93, 1/95, 3/96, 5/00, 10/03, 3/08, 5/09

REVIEWED DATES: 9/08