

Tab 1

CLINICAL POCKET CARD: PERIOPERATIVE INSULIN

Protocol for NPO Status in Diabetic Patients (Day 1)

THE WARD CALL PANIC (THE TRAP)

Never copy-paste a patient's routine outpatient insulin orders once they are placed on NPO status. Leaving short-acting or premixed nutritional insulin active without oral intake will actively induce a severe intra-operative hypoglycemic crisis.

THE CLINICAL TIMELINE TICKING

Night Before Surgery:

Maintain 100% of the patient's regular long-acting basal dose.

Clinical Rationale: Ensures baseline metabolic control overnight and prevents early morning ketosis.

Morning of Surgery (NPO Status Initiated):

CRITICAL STEP: HOLD all scheduled short-acting, rapid-acting, or premixed insulin doses entirely.

BASAL ADJUSTMENT: Administer only 50% to 70% of their usual morning long-acting basal dose.

Bedside Monitoring Protocol:

Initiate strict 6-hourly Capillary Blood Glucose (CBG) monitoring.

If CBG drops below 100 mg/dL while NPO, immediately initiate a maintenance Dextrose infusion (5% or 10%) to maintain euglycemia without triggering ketosis.

Tab 2

WARD MASTER GUIDE | DAY 2: COPD Oxygen Titration & Hypercapnia Management

1. Pathophysiological Mechanisms of CO_2 Retention

Loss of Hypoxic Respiratory Drive: Desensitization of central chemoreceptors leaves peripheral chemoreceptors (carotid/aortic bodies) as the main drivers of ventilation, stimulated only by hypoxemia.

Reversal of Hypoxic Pulmonary Vasoconstriction (HPV): High alveolar oxygen concentrations reverse localized vasoconstriction in poorly ventilated areas of the lung, redistributing blood flow to non-functional alveoli and increasing physiological dead space (V/Q mismatch).

The Haldane Effect: Oxygenation of hemoglobin alters its conformation, reducing its ability to bind and carry carbon dioxide. This forces bound CO_2 into the dissolved plasma phase, abruptly spiking arterial pCO_2 levels.

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DEVICE SPECIFICATIONS: CONTROLLED OXYGEN DELIVERY FOR COPD EXACERBATION

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[DEVICE 1: VENTURI MASK (PREFERENTIAL FIRST-LINE)]

- Indication: Unstable hypoxia or acute respiratory distress in known CO_2 retainers.
- Mechanism: Utilizes air entrainment via the Bernoulli principle to deliver a fixed, exact fraction of inspired oxygen (FiO_2), unaffected by the patient's respiratory rate or minute volume.
- Targeted Settings:
 - 24% FiO_2 Adapter → Set Wall Flow Meter to 2-4 L/min
 - 28% FiO_2 Adapter → Set Wall Flow Meter to 4-6 L/min
- Clinical Mandate: Do not deviate from the manufacturer-specified flow rate on the adapter wall setting to prevent dilution or alteration of the precise FiO_2 .

[DEVICE 2: LOW-FLOW NASAL PRONGS (ALTERNATIVE)]

- Indication: Stable hypoxia where minimal respiratory effort/tachypnea is present, and precise FiO₂ tracking is secondary to patient comfort.
- Mechanism: Delivers high-concentration oxygen directly to the nasopharynx where it mixes with ambient room air.
- Targeted Settings:
 - Titrate strictly between 1 to 2 L/min max baseline.
- Critical Limitation: FiO₂ fluctuates heavily if the patient becomes tachypneic or breathes primarily through their mouth, leading to potential hyperoxic dilution or under-delivery.

[CONTRAINDICATED ON THE WARD (FOR STABLE COPD HYPOXIA)]

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- Simple Face Masks: Variable flow rates (typically 5-10 L/min) deliver unpredictable high FiO₂ levels, quickly crushing the hypoxic drive.
 - Non-Rebreather Masks (NRM): Delivers close to 60-90% FiO₂; reserved strictly for extreme emergent pre-intubation oxygenation, not ward maintenance.

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Step-by-Step Bedside Management Protocol

1. Initial Assessment: Identify acute hypoxemia ($\text{SpO}_2 < 88\%$) in a patient with a confirmed history of COPD.
2. Controlled Initiation: Place the patient on a Blue (24%) or White (28%) Venturi mask. If unavailable, start a nasal cannula strictly at 1–2 L/min.
3. The Check Interval: Reassess clinical status and check pulse oximetry within 15 minutes. Target a strict baseline of 88–92%.
4. The Compensation Check: If the patient exhibits altered mental status, asterixis, or progressive somnolence despite stable oxygen numbers, obtain an immediate stat Arterial Blood Gas (ABG).
5. NIV Transition Thresholds: If the ABG reveals respiratory acidosis with a $\text{pH} < 7.35$ and a $\text{pCO}_2 > 45$ { mmHg}, immediately cease passive oxygen therapy and initiate Non-Invasive Ventilation (BiPAP) to support the mechanical work of breathing.