The Remnova *Complete Bite Block* is **physician designed** and expertly engineered to **protect patients' teeth, mouths, and lives.** 

# **Complete Bite Block**

Perioperative Bite Block and ETT Stabilizer Made in USA FDA Registered Patent Pending



By Anesthesia,

For Anesthesia

Safe. Clean. Effective. Essential. Easy to use.

Complete Bite Block is an oral, soft plastic device that is both a bite block and endotracheal tube (ETT) stabilizer.

Revolutionary Advancement for Patients and Healthcare Providers

### CONTACT US TODAY

Call: 202.688.5434 Email: operations@remnova.com Visit: www.remnova.com REMNOVA The New Remedy

#### WHY THE REMNOVA COMPLETE BITE BLOCK IS ESSENTIAL

#### **Problems:**

- Patients emerging from anesthesia can forcefully bite down. This can lead to dental damage, oral lacerations, hypoxia, negative pressure pulmonary edema, and death.
- Endotracheal tubes can move out of proper position. This may lead to hypoxia, airway emergency, brain damage, and death.

#### **Current Insufficient Procedure:**

- Crudely hand rolled gauze taped together and shoved into the patient's mouth.
- Taping the endotracheal tube against the patient's tongue, lips and cheeks to the side of their face.

Advanced Solution from Dr. Nathaniel G. Stamm M.D. The Remnova

*Complete Bite Block* and Endotracheal Tube Stabilizer



### EXTENSIVE MEDICAL RESEARCH EXHIBITS:

#### BITE BLOCKS ARE IMPERATIVE AND CURRENT PRACTICE IS INEFFECTIVE.

- American Society of Anesthesiologists (ASA): "the previously recommended gauze bite block cannot prevent endotracheal tube perforation... a reliable device that provides both protection of the patient's oropharynx [tongue, teeth, and lips] and protection of the endotracheal tube should be used" (25)
- British Journal of Anaesthesia: "The practice of using a Guedel [oral] airway as a bite block may be detrimental to the patient and should be discouraged" (21)
- Experts recommend using a "purpose-designed bite block"
  - Reinforced ET Tube ineffective (20)
- *Basics of Anesthesia*: "a bite block should be placed to prevent occlusion of the endotracheal tube" (36)
- "The routine use of bite blocks may reduce the incidence of biting the LMA [laryngeal mask airway]." (16)
  - **Over 1 in 4 [25%] of patients have complications caused by biting** on removal of their laryngeal mask airway [LMA] while awake, and 1 in 17 while anaesthetised. (16)
  - Complete Bite Block fits securely under LMA

#### WHY BITE BLOCKS WITH ET TUBE STABILIZERS ARE NEEDED

#### **DENTAL AND ORAL TRAUMA**

- 40% of injuries sustained during anesthesia are dental damage. (6)
- 1 in 20 patients have lips or tongues injured during anesthesia -potentially greater as often unreported. (23)
- 6.9% Incidence of oral tissue trauma after the administration of general anesthesia. (22)
- 63 percent of claims against anesthetists arise from damage to teeth. (1)
- Dental injuries can be reported and marked into National Practitioner Data Bank. (8)
- Patient quality of life suffers and death can occur due to dental injury incidents. (2)

#### **DEATH FROM BITING ET TUBE (10)**

• Case of death: biting and inhaling ET tube: "Chest X-Ray of Patient After Second Intubation [Postmortem]" (see 35)

NEGATIVE PRESSURE PULMONARY EDEMA FROM BITING ET TUBE (16, 19, 27) TONGUE NECROSIS (37) INHALING GAUZE BITE BLOCK (28)

#### ACCIDENTAL EXTUBATION (17)



Dangerous hand rolled gauze bite blocks currently used

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Complete Bite Block

#### **ARE YOU COMMITTED TO IMPROVING PATIENT OUTCOMES?**

**1. Improve Outcomes and Patient** Satisfaction by Reducing **Complications including:** dental damage, oral lacerations and pressure ulcers, hypoxia, negative pressure pulmonary edema, and laryngospasm. The device also helps prevent swallowing bite blocks, which leads to endoscopies, anoxic brain injury, and death.

- 2. Reduce Costs: the failure of current bite blocks inflicts immense costs through increased care time spent in OR (at ~\$37 per minute), PACU, and ICU. Poor bite protection also adds costs from additional pharmaceuticals, imaging, labor, and time to mediate the damage.
- 3. Reduce Infections (such as COVID) and Streamline Operations:

Complete Bite Blocks are individually packaged, clean, and ready for use. No need to hand-roll insufficient gauze "bite blocks" in between procedures. Spend time and attention where needed, while minimizing exposure.

### DEVICE DEMONSTRATION

Visit **remnova.com** for full list of device images and demo.

Shown below: ET tube stabilized along **Complete Bite Block.** 



Shown above: Tape further secures ET tube with Complete Bite Block.

The device can be flipped to protect from either side of the patient's mouth and in prone position.



Shown right: *Complete Bite* Block fits securely under mask to allow bag mask ventilation. The device is standardized to also function with laryngeal mask airways (LMA) and oral airways.





Shown below:



The *Complete Bite Block* is designed from a universal mouth guard and fits the standard adult dentition model (extending to the molars).



### **HIGH COSTS** ASSOCIATED WITH MAINTAINING CURRENT **DANGEROUS STATUS QUO**

- \$36 to \$37 per minute is the mean cost of operating room time (32)
  - making gauze bite block is costly and risk
- ~\$1,239 inflation adjusted mean dental repair cost and increasing (13)
- Cost of hospital stay from negative pressure pulmonary edema
  - 25 year old, otherwise healthy female required 6 day stay (31)
  - ~\$13,356 average 6 day ICU stay (33)
- More than 120,000 incidents of unplanned or uncontrolled extubation occur yearly in the perioperative environment and ICU, resulting in:
  - Significant complications, increased costs and increased hospital lengths of stav
  - \$40,992 total increased cost of an unplanned extubation (29)
- "Adverse outcomes associated with respiratory events constitute the single largest class of injury in the American Society of Anesthesiology Closed Claims Study (522 of 1541 cases; 34%).
  - Death or brain damage occurred in 85% of cases
  - +\$200,000 median cost of settlement or jury award (18)

**REFERENCES:** WWW.REMNOVA.COM/ **ABOUT-US** 

#### **10 KEY BENEFITS AND ADVANTAGES** FOR A SAFER ANESTHETIC: 1. Clean

The Complete Bite Block is made in a clean environment and designed for single use. The current bite block is crudely constructed out of gauze and tape. Those materials are multi-use and could have been used with a previous patient or even dropped onto the OR floor. Cleanliness is vital through the COVID pandemic. (30)

## 2. Safe, soft material

Our device is made in the USA with a soft, non-porous, non-toxic, latex free material. The current gauze material of bite blocks is porous, so it can absorb the patient's secretions. When patients bite down, the absorbed secretions are expelled. This can irritate the patient leading to coughing, bucking, and even laryngospasm, an airway emergency. FDA registered

## 3. Endotracheal tube stabilizer

Our device fits securely in patients' mouths, hugging their teeth and gums. The ET tube fits in a notch in the center of the device which sets the ET tube off the patient's tongue, lips, and cheeks. It is important to minimize contact with ET tubes because

they can lead to pressure ulcers. The ET tube then runs along the handle, and can be taped together, further securing the **airwa**y. It is vital to have a secure airway as any ET tube movement can lead to an airway emergency or death. The current bite block

does not stabilize the ET tube in any way. (17, 19, 28)

## 4. Standardized

The Complete Bite Block has standardized dimensions for accountable performance and is engineered specifically for anesthetized patients. The currently used bite block is hand made. It may be rolled unevenly, too small, or too large. This could lead to failure if it is too small, or, if too large, lead to nerve injury, tongue necrosis and airway edema. (15, 16, 17, 27)

### 5. Clear access to airway

Our device allows the Anesthesia provider access to the airway, which can save patients' lives. Providers can easily suction and visualize the airway. They can insert an oral airway, laryngoscope, or bronchoscope while our device is in the patient's mouth. Our device **fits under the face** mask which allows for bag mask ventilation. It also fits securely around patients' teeth and gums, helping to protect them from damage during airway manipulation. The current bite block has none of these attributes, and it actually hinders bag mask ventilation. It pushes the tongue posteriorly, which can lead to obstruction.

# **<u>6. Compatible for prone patient</u>** positioning

The *Complete Bite Block* is **designed to work with the current prone pillow**. Our handle comes off at an angle, allowing the ET tube to fit through the side of the pillow. Our device fits securely, giving providers more confidence that it is in proper position when patients are flipped. The current bite block easily moves during the flipping process. Once a patient is prone, it is difficult to make sure the current bite block is in proper position. Proper positioning is especially important in neurosurgery cases that use motor monitoring. The monitoring causes patients' jaws to bite down repeatedly throughout. (15)

## **7. Patient safety** and time/cost saved

Our device is pre-made and ready for immediate use. The current bite block needs to be hand rolled, sometimes multiple times to achieve a proper size. This takes time and effort. With OR costs sky high, every minute of saved time counts. Providers can make the bite block before the case, but it may **delay surgery** start. They could make it during the case, but that takes their attention away from the patient,

potentially compromising patient safety. Also, if an Anesthesia provider has forgotten to make

a bite block when they are preparing the patient for extubation, it can be too late. An oral airway may be inserted instead. If a patient bites the hard oral airway, dental damage or oral lesions can occur. (21)

# 8. Helps prevent swallowing

Our device **fits securely in the mouth** and has a **long handle at an angle**,

making it difficult to swallow. The current bite block is a tube shape and patients have needed endoscopy procedures for removal after swallowing it. (28)

# 9. Better bite

## force distribution

Our device is **designed to contact all teeth on half of the mouth.** The current bite block may only come in contact with a few teeth, leading to more stress on those teeth and a higher risk of injury.

# 10. Handle

The handle **exclusive to the** *Complete Bite Block* allows for **easy insertion**, positioning, and removal, as well as area to tape for even greater ETT stabilization.



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# Complete Protection for Your Patients Today!



Visit remnova.com for more information.

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