NGN NCLEX 2026 · VISUAL STUDY LIBRARY

Caring for the Patient with *Jaw Fixation*

Maxillomandibular Fixation (MMF) — the airway is the answer to almost every question.

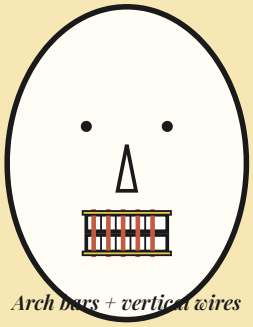
PERIOPERATIVE | MAXILLOFACIAL | AIRWAY · PRIORITY | TRAUMA & SURGERY

1

DEFINITION · OVERVIEW

What Is Jaw Fixation?

- **Maxillomandibular fixation (MMF)**, also called intermaxillary fixation (IMF), is the surgical wiring or banding of the upper and lower jaws together using arch bars, elastics, or wires anchored to the teeth.
- Used to **immobilize the jaw for healing** after mandibular or maxillary fracture, orthognathic surgery, or major facial trauma. Typically remains in place **4–8 weeks**.
- The patient **cannot open the mouth voluntarily**. This creates the central nursing problem: **high risk for airway compromise** if vomiting, bleeding, or swelling occurs.



Arch bars + vertical wires

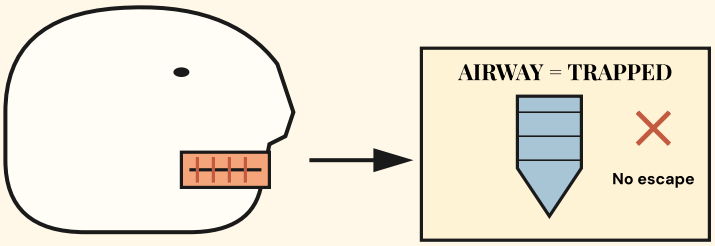
Jaws wired shut — airway is locked behind the teeth.

2

PATHOPHYSIOLOGY · WHY THE AIRWAY IS AT RISK

How MMF Creates the Hazard

1. Jaw fracture or facial surgery
2. Bones must be immobilized to heal
3. Arch bars / wires bind upper + lower jaws
4. Mouth physically cannot open
5. Vomiting · bleeding · swelling = AIRWAY EMERGENCY



Emesis, blood, and secretions have no exit route — aspiration occurs in seconds.

3

SIGNS & SYMPTOMS · COMPLICATIONS

What to Watch For

EARLY / EXPECTED

- Increased salivation, drooling
- Difficulty swallowing
- Difficulty speaking (muffled, slurred)
- Mild facial swelling, bruising
- Mouth dryness, soreness from arch bars
- Anxiety, frustration with communication

LATE · EMERGENCY

- **Vomiting** — cannot clear emesis
- **Stridor, wheezing**
- **Cyanosis, restlessness**
- **Tachypnea, retractions**
- Excessive oral bleeding
- Rapidly increasing facial / neck swelling
- Decreased SpO_2, decreased LOC

RED FLAG TRIAD

Vomiting + Restlessness + Falling SpO_2 in a patient with MMF = imminent asphyxiation. **Cut the wires first**, then suction, then call. Do not wait for an order — this is a standing emergency action.

4

PRIORITY NURSING INTERVENTIONS · ABCS FIRST

What the Nurse Does

#1 PRIORITY

Wire Cutters at Bedside

Tape wire cutters (and scissors for elastics) **to the head of the bed** 24/7. They travel with the patient — to radiology, to PT, home at discharge.

AIRWAY

Functional Suction Ready

Yankauer suction set up, tested, and within reach at all times. Suction equipment goes home with the patient.

Position

Semi-Fowler's or **side-lying with HOB elevated**. Never flat on back. Promotes drainage of secretions out of the mouth.

Antiemetics — Standing Order

Administer scheduled / PRN antiemetics aggressively. **Preventing vomiting prevents death.** Ondansetron is first-line.

Monitor SpO_2 Continuously

Pulse oximetry post-op. Watch RR, breath sounds, work of breathing. Any decline → assess airway immediately.

Liquid / Pureed Diet

Through a straw or syringe behind the molars or through a gap. High-calorie, high-protein. Track weight weekly — patients lose 5–10 lb.

Oral Hygiene q2–4h

Irrigate with normal saline or chlorhexidine. Soft toothbrush on outer tooth surfaces only. Prevents infection and breakdown around arch bars.

Communication Plan

Paper/pencil, whiteboard, phone, call bell within reach. Anticipate frustration — patients cannot yell for help.

Pain Management

Liquid or IV analgesics. Avoid opioids that depress respirations when possible. Treat pain — it triggers anxiety and nausea.

Emergency Tracheostomy Setup

Trach tray available on the unit per facility policy. Know location. Practice the emergency wire-cutting procedure.

5

PHARMACOLOGY · KEY DRUG CLASSES

Medications & Considerations

DRUG / CLASS	MECHANISM (SIMPLE)	KEY SIDE EFFECTS	NURSING CONSIDERATIONS
Ondansetron (Zofran) — 5-HT_3 antagonist	Blocks serotonin receptors in CTZ → prevents nausea/vomiting	Headache, constipation, **QT prolongation**	FIRST-LINE antiemetic post-op. Give IV scheduled. Monitor ECG with cardiac history.
Promethazine (Phenergan) — antihistamine	H_1 blockade + dopamine antagonism → antiemetic + sedating	Sedation, respiratory depression, **tissue necrosis** if extravasates	Use cautiously — sedation depresses respirations. Give deep IV, large vein, dilute.
Morphine / Hydromorphone (opioid analgesic)	μ-opioid agonist → pain relief	**Respiratory depression**, sedation, constipation, nausea	Use lowest effective dose. Naloxone available. Stool softener mandatory. Watch RR <12.
Acetaminophen IV / liquid	Central COX inhibition → analgesia, antipyretic	Hepatotoxicity (dose-dependent)	Preferred first-line analgesic. Max 4 g/24h. Liquid form for home use.
Amoxicillin / Clindamycin (antibiotics)	Bactericidal — prophylaxis against oral flora	GI upset, diarrhea, rash, *C. diff* (clindamycin)	Give as ordered post-op. Liquid form. Teach to complete full course.
Docusate sodium (stool softener)	Surfactant → softens stool	Mild GI cramping	Prevent constipation from opioids + low-fiber liquid diet + immobility. Straining = ↑ICP/swelling risk.
Chlorhexidine 0.12% rinse	Bactericidal mouth rinse	Tooth staining, taste alteration	Use as oral irrigation. Cannot be swished — deliver via syringe/bulb past arch bars.

6

NCLEX TEST TRAPS · WRONG VS. RIGHT

Where Students Lose Points

✗ WRONG	✓ RIGHT
Patient with MMF starts vomiting — **nurse calls the surgeon first.**	**Cut the wires immediately** to open the airway, suction, position side-lying, *then* notify the provider.
"I'll keep the wire cutters in the unit supply cabinet so they don't get lost."	Wire cutters are **taped to the head of the bed** at all times and travel with the patient everywhere — including home.
Position patient supine after surgery for comfort.	**Semi-Fowler's or side-lying with HOB up** — promotes drainage and prevents aspiration.
"Hold the antiemetic — the patient isn't nauseated right now."	**Give scheduled antiemetics around the clock**. Prevention is the goal; the cost of a single vomiting episode is too high.
Cut *any* wire to clear the airway in an emergency.	Cut the **vertical interconnecting wires / elastic bands** between the upper and lower arch bars. The arch bars themselves stay in place.
Encourage carbonated beverages because they're easy to drink.	**Avoid carbonation** — gas causes bloating, belching, and vomiting risk. Encourage smooth liquids and blenderized foods.

7

PATIENT & FAMILY EDUCATION

Teaching Before Discharge

🚨 Emergency Skills

- ✓ Carry wire cutters at ALL times
- ✓ Cut the vertical wires / rubber bands if vomiting, choking, or seizing
- ✓ Suction machine at home; know how to use it
- ✓ Call 911 after cutting wires
- ✓ Teach family — at least 2 caregivers practice

🥤 Nutrition

- ✓ Liquid / blenderized diet for 4–8 weeks
- ✓ Use straw, syringe, or pour past the back teeth
- ✓ High-calorie, high-protein shakes
- ✓ AVOID carbonation, alcohol, very hot foods
- ✓ Weigh weekly — expect 5–10 lb loss

🪥 Oral Care

- ✓ Rinse mouth with saline or prescribed rinse after every meal
- ✓ Use a bulb syringe or water jet (low pressure)
- ✓ Soft toothbrush — outer tooth surfaces only
- ✓ Watch for foul odor, pus, loose wires

⚠️ Warning Signs to Call Provider

- ✓ Fever > 100.4°F
- ✓ Increasing pain, swelling, or facial redness
- ✓ Foul-smelling drainage or breath
- ✓ Loose, broken, or protruding wires
- ✓ Difficulty breathing — go to ER immediately
- ✓ Persistent nausea or vomiting

8

MEMORY BOOSTERS · MNEMONICS

Lock It In

SWIFT

- **S** — **Suction** ready & functional at bedside
- **W** — **Wire cutters** taped to head of bed
- **I** — **Immobilize** jaw — don't manipulate
- **F** — **Fowler's** or side-lying position
- **T** — **Teach** patient how to cut wires

The 3 A's of MMF

- **A** — **Airway** — always the priority answer
- **A** — **Antiemetics** — prevent the vomit
- **A** — **Anticipate** emergencies before they happen

> *"Wired shut? CUT IT OUT if they vomit — airway first, apology later."*

9

NCJMM · SIX-STEP CLINICAL JUDGMENT

Apply It to the Bedside

Clinical Scenario

You are caring for a **22-year-old male, post-op day 1** following open reduction and MMF for a mandibular fracture sustained in an MVA. He uses a whiteboard to write: *"feel sick, need water."* Vitals: T 99.4°F · HR 108 · BP 132/78 · RR 22 · SpO_2 96% on RA. He appears anxious, swallowing repeatedly. The morning antiemetic was held because he reported feeling "fine" 2 hours ago.

1 RECOGNIZE CUES

What Information Is Important?

- **Reports nausea + repeated swallowing** — pre-emetic signs in an MMF patient
- **Anxiety, tachycardia (HR 108), tachypnea (RR 22)** — sympathetic surge
- SpO_2 trending down toward 96% — still acceptable but a baseline to track
- Antiemetic was held — protective layer removed
- Asking for water — increases gastric volume and aspiration risk

2 ANALYZE CUES

What Do the Cues Mean Together?

- Nausea + wired jaw = **imminent airway emergency** if vomiting occurs
- Anxiety amplifies nausea (vagal + sympathetic cycling)
- Held antiemetic means no pharmacologic protection right now
- The patient cannot verbalize escalating distress — communication is degraded

3 PRIORITIZE HYPOTHESES

Rank the Risks

- **1st — Risk for aspiration / airway obstruction** (ABCs, life-threatening)
- 2nd — Acute anxiety (compounds airway risk)
- 3rd — Acute post-op pain
- 4th — Risk for impaired nutrition / volume deficit

4 GENERATE SOLUTIONS

What Could the Nurse Do?

- Verify wire cutters and suction at bedside — touch them, confirm
- Administer ordered IV antiemetic (ondansetron) **now**
- Reposition: high-Fowler's or side-lying with HOB up
- Hold water / oral intake until nausea resolves
- Use slow breathing, cool cloth to forehead, calm presence to reduce anxiety
- Notify provider; reassess for missed analgesic or escalating cause

5 TAKE ACTIONS

What Does the Nurse Do First, Second, Third?

- **First:** Confirm wire cutters + functioning suction at the bedside
- **Second:** Administer ondansetron 4 mg IV per PRN order
- **Third:** Position side-lying with HOB elevated; place emesis basin and Yankauer in hand
- Stay with the patient; coach slow breathing
- Hold all oral intake; document and notify surgeon

6 EVALUATE OUTCOMES

Did It Work?

- **Expected:** Nausea resolved within 30 min, no emesis
- HR < 100, RR 12–20, SpO_2 ≥ 95% on RA
- Patient reports feeling calmer; able to rest
- Airway remains patent — no need to cut wires
- Antiemetic now scheduled around the clock, not PRN, going forward

---

NGN NCLEX 2026 Visual Study Library · Jaw Fixation (MMF) · Topic compiled from standard NGN NCLEX 2026 references (Saunders, ATI, Lippincott). Not present in uploaded notes — drawn from standard references.